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Toying with Toxins

The Global Transference of Toxic Harms

Submitted in fulfilment of the requirements for the

Degree of

Doctor of Philosophy

October 2013

School of Social Sciences, Faculty of Arts

University of Tasmania

Declaration of Originality

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any other institute of tertiary education. Information derived from the published and unpublished work of others has been acknowledged in the text and a list of references is provided.

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Chapter 2: Methodology

Significant portions of this thesis chapter have been published in Heckenberg, D. and White, R. (2012), 'Innovative Approaches to Researching Environmental Crime' in South, N. and Brisman, A. (Eds), *Handbook of Green Criminology*, Milton Park: Routledge International.

Chapter 2: Case Study Method

Significant portions of this thesis chapter have been published in Heckenberg, D. (2011). 'What constitutes a good case study and what is it good for?' in Bartels, L. and Richards, K. (eds), *Qualitative Criminology: Stories from the Field.* New South Wales: Hawkins Press

Chapter 3: Transference and Toxic Harms

Significant portions of this thesis chapter have been published in Heckenberg, D. (2010). 'The global transference of toxic harms' in White, R. (ed), *Global Environmental Harm: Criminological Perspectives*, London: Willan Publishing.

Chapter 9: Recalling Toxic Toys

Significant portions of this chapter have been published in Heckenberg, D. (2013) 'Corporate social irresponsibility and unsafe toys' in Aslin, H. and Lockie, S. (Eds), *Engaged Environmental Citizenship*, Darwin: Charles Darwin University Press and Australian National University E-Press.

Dedication

This research is dedicated to my step-grandchildren - Raania, Tristan, Decklan, Mia and Tre Heckenberg, to my adopted grandchildren Kieran, Joshua, and Hayley Shkardoon and Letticia and Dylan Rose and to the memory of my nieces Lisa and Melissa Dale, in His tender care. This is for you.

Acknowledgements

Research and writing is never a solitary endeavour. It is a collaborative effort that always has at its heart a core group of family, friends and colleagues who provide support and encouragement when the going gets tough. Firstly, to my husband, Clive, thank you for believing in me, for enduring three years separated by different states, and especially for those three little words, you can do it! To my mother-in-law, Maud Heckenberg who did not see this thesis finished, I finally completed! To my sister Elizabeth, my best friend Glenda Coe and my sister-in law Nola Graham thanks for being there along the way. To my friend, Margaret Vincent thank you for your enthusiasm and that wonderful quote 'my children cut their teeth on Thomas™ the tank engine'. Thanks also to Dr Alison Bleaney for translating some of the more confusing medical terminology into plain English.

Special thanks to Kathryn Ottaway for her unwavering support in so many practical ways and for taking the photographs; to my friend Margaret Dickenson for her faithfulness in all things, to my GP Libby Monk and health practitioner Elizabeth Woolley, and to my colleague Hannah Graham, whose happy disposition and positive spirit has made sharing intellectual and office space an absolute delight. Finally, sincere thanks to Professor Rob White for guiding my professional development and for so generously giving of his time, knowledge, critical insight, encouragement and support during a challenging journey.

Abstract

This thesis provides a critique of the social and ideological processes that underpin the production, consumption and disposal of toys. In particular, it examines two high-profile cases involving toys containing lead and magnets. These cases are contextualized by a spate of global toy-related recalls between 2006 and 2008, peaking in 2007. The cases focus on four toy companies, one headquartered in Canada and three in the United States. This study examines the responses to unsafe toys, by toy companies in the west and their supply chain partners in China, through the lens of deviancy theory and critical criminology. The study found that there appears to be a scripted set of responses and strategies on the part of those doing the harm.

This research is concerned with conceptualizing, observing and mapping global harms, in particular toxic harms, within the broad theoretical framework of 'green criminology', where a key precept is conceptualizations of harm that go beyond conventional legal definitions of crime. Informed by an environmental justice perspective, it asks which toxins affect which people, which places and whose natural landscapes and why? It engages with eco-global criminology's concerns with the ecological (environmental toxins), the global (worldwide movement of toxic harms) and issues of justice (biological, social and ecological consequences of those trajectories for people, places and nature).

The study examined the flow of toxic harms across geographical and jurisdictional borders through the concept of transference. Transference refers to the movement of something (e.g. substance, activity) from one place or person (entity) to another. The research located transference within the growing interconnection of markets and the expanding flow of goods where different supply chain activities are located in particular countries and where human and ecological harms are also transferred. Denial and the use of particular techniques of neutralization on the part of those who produced and perpetuated harm in the production, consumption and disposal of toxic toys was a major concern and finding of this thesis.

Photographs, Tables, Figures and Boxes

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Chapter 1: Introduction and Background

Introduction

This chapter provides an overview of what this thesis is about, how this study originated and how it evolved over time. It answers the question why toys? and signals the centrality of the global supply chain as the conduit or mode of transference for these harms. It situates the primary case series (toxic toys) in a cluster of global toy-related recalls that occurred between 2006 and 2008, peaking in 2007 and in the wider political and economic context of US-China relations at the time, the two regions in the world where these events primarily played out. It answers the questions which toxins?, which perpetrators? and which offence? The chapter concludes with an outline of thesis chapters.

Every day toxic harms flow across the increasingly porous borders of a globalised world. They are carried by wind and sea currents (e.g. pathogens, acid rain, plastic gyres), in the bodies of migratory birds (e.g. bird flu), in the ballast water of ships (e.g. invasive species like the northern pacific sea star) and in the global supply chain and distribution network that moves products around the world (see Heckenberg 2010). Sometimes these products harbour invisible hazards and toys are no exception.

Each year, thousands of children around the world are killed or injured by their toys and trinkets. They choke on small parts, ingest heavy metals like lead and cadmium, swallow tiny powerful magnets that damage their intestines or are exposed to dangerous chemicals used to 'soften' their bibs, teething rings and bath toys. But the toxicity of toys extends beyond the victimisation of children. Toxic toys also have consequences for the foreign workers who were exposed to lead and other supply chain toxins in off-shore locations, in this case china. This chain of harm also extends to the pollution of places (factories, homes) and natural spaces (air, soil, water) in the specific regions of the world where different supply chain activities (extraction, manufacturing,

consumption and disposal) are carried out. For a green criminologist, cases of harm like these ought to be important.

Some of these toxic contaminants (e.g. chemicals like phthalates) are suspected of being endocrine disrupters (i.e. interfere with body's hormone systems). Their effects may only manifest over time (e.g. in reproductive disorders) so that making the links between cause and effect is problematic. Others like lead are known to have caused death (e.g. an American child died after ingesting a lead-contaminated jewellery item), however they are more likely to manifest in health concerns over time (e.g. reduced IQ, behavioural disorders). Lead is especially problematic for the unborn and developing child. Some industrial chemicals such as diethylene glycol (found in toothpaste and teething mixture), have left victims with lingering life-long-effects that significantly impeded quality of life, deprived people of their livelihood and/or retarded the capacity of victims to reach their full potential (see examples Chapter 3).

The production and distribution of toxic products is typically labelled a 'crisis' by offenders, but it is also a significant human and environmental health issue. These are harms generated in response to the demands of global markets, sanctioned by the marketplace, rather than prohibited by criminal law. In their trajectory across the world toxic products leave behind a chain of harm, the invisibility of which is not only reflected in the contaminants themselves (colourless, tasteless and odourless) but also in their pattern of victimisation. For instance, in a critical appraisal of economic crime and its victims Croall (2010: 169) notes that 'on the basis of existing information about these crimes, victimisation is widespread and most probably exceeds that for "conventional" crime … furthermore patterns of victimisation can be related to broader patterns of global socio-economic, gender and age inequalities'.

A perspective that fits well with this study is eco-global criminology (See White 2008; 2010; 2011) where key concerns include the ecologically harmful (e.g. heavy metals, chemicals and rare earth magnets in toys) and the global (the worldwide distribution and redistribution of toxic harms). It is eco-global criminology's 'emphasises on the essential interconnectedness of issues, events, people, places and the natural landscape' (See White 2009: 18) that is so important here. These concepts resonate with key elements of this study, such as the movement of harm across borders (transference), the connection between different forms of harm and environmental concerns (e.g. heavy metals and the pollution of bodies, places and nature) and the recognition that such crimes occur within specific geographical, economic and social contexts. Eco-global criminology directs the criminological gaze to the global, as well as conceptualising the topic (toxic products) in relation to legal, ecological and justice criteria (White 2011).

For me, toxic toys (and other adulterated products) are as much an ecological issue as they are a public health issue because it is inevitable that these products (as well as what they contain and release) *will* end up in the environment. This approach is consistent with Walters (2009: 9) reference to 'contemporary discourses in green criminology [that] continue to engage with and critique acts that damage and destroy the environment' (See also Beirne and South 2007; White 2011). As green criminologists it is important to also be mindful of how the production distribution and disposal of toxic products (including what is in a product and what can potentially migrate from that product) ultimately contribute to greenhouse gas emissions and global climate change.

Background

The discovery of a warning label for a toxic chemical inside a toy purchased for one of our grandchildren in late 2006 was the catalyst for this research. Called a 'laugh-a-ball', the toy (See Photo 1.1) was bought from a 'hawker' in a government office in Hobart.

Photo 1.1: 'Laugh-a-ball Toy'

After playing with one of the toys intermittently over the ensuing weekend it stopped 'laughing' and on unzipping the fluffy outside cover, we discovered a toxic warning label (See Photo 1.2) attached to the rigid plastic ball that gave the toy its shape.

Photo 1.2: Toxic Warning Label

A green cardboard tag (See Photo 1.3) on the outside of the toy was environmentally friendly (in colour and content), displaying the words "**non-toxic materials"** in bold underscored font. It also bore the CE stamp of approval, indicating the toy had passed European Union standards of quality and safety, some of the most stringent at the time.

Photo 1.3: Non-toxic Tag

The toys, recommended for children age three and above, were distributed by a second company, Innovage Inc. (See Photo 1.4)

Photo 1.4: Distributor of Toy

A cloth tag sewn into the toy (See Photo 1.5) stipulated the country of manufacture (China), the materials the toy was made of (new materials only) and the name of a Teddy Bear company in California

Photo 1.5: Cloth Tag

I emailed both companies (in 2007) to see if I could determine what the toxic chemical was, but received no reply from either.

The toys packaging was also toxic, bearing as it did a 'danger of suffocation' warning (See Photo 1.6) for small children. This is an important area for further research.

Photo 1.6: Toxic Packaging

For me, the nagging questions were - what exactly is the chemical of concern? How did a carcinogenic toxin from California end up inside a toy in Australia? Who put it inside the toy and why? How did it move, undetected, across geographical and jurisdictional borders? (United States to China to Australia) and more importantly, why is it OK for Australian children but not for American children? It immediately raised questions about the distribution (and re-distribution) of toxic risks and issues of social and environmental justice. The sense of outrage I felt at the time was balanced against a desire to understand what happened, how it happened and why?

Why Toys?

So in June 2007, when lead was detected in the surface paint of Thomas & Friends™ wooden railway sets, these events coincided with my PhD candidature and a growing interest in green criminology and the study of environmental crimes and harms. Green criminology is an umbrella term for a range of 'contrasting perspectives' (see Lynch and Stretesky 2003: 217) that examine different types of transgressions against nature from a criminological perspective. Green criminology too, is concerned with human rights issues and global governance (See for example Beirne and South 2007), topics very relevant to a consumer's right to know what is in products and what could potentially migrate from a product,, as well as calling companies to account for the production of risk in their extended supply chains.

The recall of Thomas & Friends™ wooden railway sets by American company RC2 Corporation served to connect toys and toxicity in the public imagination. It triggered a spate of similar recalls by companies large and small for lead-contaminated children's toys and jewellery. The events captured global media headlines for well over a year, peaking in 2007, dubbed by U.S. House Speaker, Nancy Pelosi and Consumers Union Director, Don Mays, as 'The Year Of The Recall' (Grabowski, *FoodSafety Magazine,* February/March 2008). As the toy-related recalls escalated, I immediately began collecting what would become a steady stream of information and data about toxic toys. An interest in children's jewellery also developed alongside toys, as cases of lead (and later cadmium) emerged as hazards in these products.

Political Context

Toxic harms are never produced in an economic and political vacuum (See Pellow 2007), but in the context of a world dominated by the imperatives of capital accumulation and free trade and against the backdrop of prevailing political and economic issues. In this case these longstanding issues were sensitivities between China and the United

States that resurfaced during the global toy-related product recalls. These included: the transfer of American manufacturing jobs to developing economies like China, trade imbalances between the two countries, and tensions over the value of the Chinese Yuan (see for example Teagarden 2009). This fuelled political and public concerns that the quality of toys had been compromised for a cheap off-shore manufacturing location.

There was widespread political and public outrage at the fact that lead (a substance that had been banned for over three decades), was turning up in excessive quantities in children's toys and jewellery. As Schmidt (2008: A72) notes in an article in *Environmental Health Impacts,* in the aftermath of the recalls:

> Lead contaminated toys became one of the biggest environmental health stories of recent times. It was shocking to think of children being poisoned while playing, and by lead no less, a toxic metal that consumers assumed had been purged from products long ago. Now lead was back, sparking a furore over toy safety

Consumers felt betrayed, especially by the big toy companies and the high-profile brands they had put their trust in:

> It made me sick to my stomach to think that from the time [my five year old son] was a year and a half, he had his Thomas the Tank Engine in his mouth and could have lead in his system (Leean Anderson, quoted in Connell, The United Steelworkers Union quoted in Connell, *Women of Steel Take Action,* 29/11/2007).

Similarly, during a U.S. Senate Hearing into the safety of toys, held on 8 June 2007, Senator Durbin (Illinois) asked the President of the Toy Industry Association:

> So can you explain to me how a Thomas the Tank train could have lead paint on it and be sold in the United States when we have known for decades that lead ingested by children is a

> danger? (Senator Durbin, US Senate Committee of Appropriations 2009: 51).

The advent of so many dangerous toys reinforced public perceptions that big companies were putting profits before people. In these cases, the at risk group was one of the most vulnerable in society - children - albeit the focus was primarily on the victimisation of children in the developed world

These events not only focused attention on the quality and safety of toys more widely, but also exposed the vulnerability of the off-shore sector of toy companies extended supply chains, in these instances, located in China. That is not to say that China was responsible for all these toy hazards and as the crisis evolved, subsequent events would cast a shadow over certain western toy companies who produced millions of defective magnetic toys, for which China was prematurely blamed, but *not* responsible.

Key concerns arising from the crises were product quality and safety, the appropriateness of self-regulation in the toy sector and the capacity of the U.S. Consumer Product Safety Commission (USCPSC) to protect America's children from unsafe products. The Commission was subjected to domestic and global scrutiny and was widely criticised by different groups (e.g. media, consumer advocates, and politicians) as being under-resourced, under-funded, ineffective and having a poor presence at the border. For instance, a critique by the American Association for Justice (2009: 3), citing Mantell (2007) notes:

> The CPSC is woefully under-resourced to cope with the flood of products entering the U.S. marketplace. Until 2007, the CPSC had only 15 inspectors to monitor all ports in the United States for all products, and only one employee to conduct safety tests on toys

The agency was also criticised for being too close to the industries they regulated, leading to calls for the Acting Chair of the USCPSC to resign (see Drawbaugh and Barz, *Reuters*, U.S. 30/10/2007). This came amidst a furore over allegations that senior executives of the agency had taken trips paid for by Industry groups (Williamson, *The Washington Post*, 2/11/2007).

The agency's antiquated testing laboratory also attracted criticism (see Lipton, *The New York Time*, 2/9/2007). In a written statement to a U.S. Senate Committee in September 2007, then USCPSC Commissioner, Thomas Moore made reference to this:

> I can't tell you how troubling the picture of our toy testing facility in the *New York Times* article was to me. We have been trying to obtain funds to modernize our lab since before I arrived at CPSC in 1995, yet we have never received any significant funding for that goal (Moore 2007: 6)

Which Toxins?

The toy toxins were four-fold:

1. unlawful use of lead in the surface paint of wooden and metal toys and/or components of toys
2. lawful use of rare earth magnets that dislodged from certain poorly designed toys, causing awful injuries to children when two or more were swallowed
3. lawful use of phthalates (thall-eights) suspected endocrine-disrupting chemicals (that is they interfere with the body's hormone system) used to soften plastic toys
4. unlawful use of a toxic industrial chemical in Bindeez™ art and craft beads (marketed as Aqua Dots™ in North America), that metabolised in children's bodies as the date-rape drug GHB and caused serious harm to children

Toxic contaminants like lead migrated from the surface of painted wooden and metal toys. In some instances, the threat was two-pronged. For instance, PVC toys contain both phthalates (plasticisers) and sometimes also lead and cadmium (where these are used to stabilise the plastic). Children's propensity to explore the environment with their mouths took care of the rest and saliva acted as a pathway for these chemicals and heavy metals to enter children's bodies.

Deadly components like rare earth magnets dislodged from poorly designed toys and were swallowed by unknown numbers of children, who sustained awful injuries including bowel blockages and intestinal perforations (see Chapter 5). In one case a twenty month old American boy died after ingesting magnets from a sibling's Magnetix™ building set. Aside from upstream emissions in the creation and processing of lead and rare earth magnets, and in their migration during consumption, both are problematic at disposal.

This study argues that the narrow focus on toy safety needs to be extended to the wider context of sustainable humanitarian and environmental practices both at home and abroad by considering:

- the lifecycle harm(s) associated with what goes into toys (e.g., chemicals to make plastic soft);
- how the processes involved in extracting, and processing of some of these hazards (e.g. chemical extraction of rare earth materials used to make magnets) contribute to biological, social and environmental harm
- life-cycle emissions from the production of specific toy materials (e.g. the PVC manufacturing process);
- the behavior of substances during consumption (e.g., migration of phthalates and heavy metals from PVC toys);
- the effects on children (e.g., potential poisoning, reproductive and developmental disorders; intestinal perforations);

- the fate of the substances and the toys themselves at disposal (e.g., incineration, landfill) and the toxic legacy for current and future generations (e.g., emissions to air, water and soil). (See Heckenberg 2013: 183).

Toxic toys pollute children's bodies, the places where they live, learn work and play, and the spaces of nature (air, soil, water) in unsustainable ways. As green criminologists, we also need to make the links between the production, distribution and disposal of toxic products and how these processes contribute to greenhouse gas emissions and ultimately global climate change.

Which Perpetrators?

The offenders in these case studies are predominantly larger toy companies headquartered in the developed world and their supply chain partners in China. Those companies directly implicated in the lead-related toy recalls included American toy companies RC2 Corporation for Thomas & Friends™ wooden railway sets, Schylling Inc for Thomas™, Curious George™ and Circus™ spinning tops and pails and Fisher-Price, a Mattel Inc wholly owned subsidiary, for Dora the Explorer™ and other character toys. The two major companies involved in the magnet-related recalls were Canadian toy giant Mega Bloks (now Mega Brands Canada) and its American arm Rose Art Industries (now Mega Brands America) for Magnetix™ construction sets and the world's largest toy company, Mattel Inc, for Polly Pocket™ play sets and other toys. Mattel Inc was the only company implicated in both lead and magnet-related recalls.

Which Offence?

The production and distribution of unsafe toys comes into a category of offences identified by Croall (2009: 128) as 'economic crimes against consumers'. They might also be categorised as 'safety crimes' (see Tombs 2006; Tombs and Whyte 2007). However they are categorised, as

Croall (2010: 172) notes, 'while less high profile than the mass deaths associated with work, and not systematically counted, crimes which victimise consumers involve a range of commercial activities'. In the case of the toy supply chain these commercial activities and their victimisation is dispersed across different countries where different supply chain activities are carried out.

Typically, these types of transgressions fall outside conventional definitions of crime and are usually 'policed' by a more lenient civil and administrative justice system. Nevertheless, they do result in considerable harm. For instance, in 2011, in the United States alone:

> thirteen children died from toy-related injuries, twelve of them under 12 years of age. An estimated 262,300 children of all ages were treated for toy-related injuries in U.S. hospital emergency departments, 193,200 younger than 15 years of age, 184,100 12 years of age or younger and 92,200 younger than five years of age (Yongling: 2011: 3)

In the United Kingdom, Croall (2010: 172), cites the U.K. consumer association "Which?" (2004), reporting that 'seven people each year are killed by unrecalled unsafe products.' Consistent with Croall's observation above, that these types of crimes 'are not systematically counted', the paucity of global data on lead and magnet related injuries and deaths from toys (and jewellery) remained an ongoing and important concern throughout this study. We simply do not know with any accuracy how many children were affected by toxic toys and what we do know is likely to be the tip of the iceberg.

The tendency is for companies to downplay concerns about the toxicity of products, to 'claim that chemicals are used in tiny amounts and pose no health threat' but the greater concern is 'the 'cocktail' effect of combinations of chemicals' (Croall 2009:134; See also Smith and Lourie 2009). However, as Croall (2010: 128) again, points out:

> The long term health of consumers is endangered by the use, in foods and other consumer products, of a vast range of chemicals and other substances which, while associated with long term health risks, do not result in immediate harm

For these reasons, this study is concerned with the whole chain of toxicity from origin to disposal (and beyond) and the consequences for bodies, places and nature.

This Thesis

This thesis examines the global transference of toxic harms across geographical and jurisdictional borders. The primary concern is with conceptualising, observing and mapping this mobility within the broad theoretical framework of 'green criminology', where a central precept is conceptualisations of harm that go beyond conventional definitions of crime (Hillyard and Tombs 2004; Lynch 2003; White 2008; 2009; 2011). It explores different forms of harm, conduits or modes of transference, and the repercussions for the internal environment of the body (all species), and the external environments of the places of habitation (where we live, learn work and play) and nature (soil, water and air) (Heckenberg 2010: 38) It is less concerned with how harm is regulated in the legal sense and more concerned with the question of what social and ideological processes normalise and legitimise harm in a global context.

More specifically, this thesis focuses on the toxic contaminants and deadly components that move around the world inside everyday products, with a particular emphasis on children's toys. In their trajectory across the world, these contaminated products (and what they contain and release en route) leave behind a trail of harm that has consequences for people, places and nature in the different geographical locations where specific activities (production, consumption, distribution and disposal) take place along the extended supply chain.

This thesis is divided into ten chapters as follows:

Chapter Outline

Chapter One: Introduction and Background provides an overview of what this thesis is about, how this study originated and how it evolved over time. It answers the question why toys? and signals the centrality of the global supply chain as the conduit or mode of transference for these harms. It situates the primary case series (toxic toys) in a cluster of global toy-related recalls that occurred between 2006 and 2008, peaking in 2007 and in the wider political and economic context of US-China relations at the time, the two regions in the world where these events primarily played out. It answers the questions which toxins?, which perpetrators? and which offence? The chapter concludes with an outline of thesis chapters.

Chapter Two: The Study is divided into three sections, each of which details a different aspect of the research process. Section 1: Methodology: outlines Research Questions, Aims and Objectives, Perspective and Approach, Context, and Key Concepts. This section also summarises the guiding literature that informs the Theoretical, Conceptual and Analytical Frameworks that underpin this study. Section 2: Method: outlines the key challenges and opportunities associated with the case study as the primary research method. In Section 3: Researcher Reflections I situate myself in the research project and reflect on how this has shaped both topic selection and worldview.

Chapter Three: Transference and Toxic Harms grounds the key concept of transference in concrete examples of different forms of harm, modes of transference and the biological, social and environmental consequence of these trajectories. The chapter begins with an introduction to the concept of transference, in the context of the political and economic dimensions in which toxic harms are created, defined and redefined. The chapter concludes with four pilot cases illustrating the movement of toxic harms across geographical and jurisdictional

borders, where the primary mode of transference is the global supply chain and distribution network. These include 1) diethylene glycol in medicines (over time), 2) melamine in infant formula and pet food 3) counterfeit pharmaceuticals (circuitous routes) and the reprocessing of lead from e-waste into children's jewellery (the boomerang effect).

Chapter Four: The World of Toxic Toys sets the scene for the primary case series on toxic toys. It begins by defining a toy for the purposes of this study; provides a short history of toys, explores the social aspects of toys, and the relationship between toys, play and child development. It answers the question what is a toy? The discussion then turns to the questions of: who makes toys? Who are the key players in the toy sector? What is the value of the global toy sector? Where are toys made? and reflects on the nature of toys as commodities. The closing section is devoted to the question of What is in a toy? one of the most compelling questions for this study.

Chapter Five: Toxic Contaminants and Deadly Components begins with a brief overview of the key toxins found in children's toys including patterns of exposure and the consequences of those hazards for humans. More specifically it examines two of the most prolific toy hazards (rare earth magnets and lead) that migrated out of certain children's toys and were the subject of global recalls between 2006 and 2008. Each hazard (the trouble with magnets; the trouble with lead) is examined through the lens of transference where the key questions are: where is this (contaminant, component) coming from? where is it going to? and what are the consequences for human (e.g. children) and ecological health. The closing section presents a quantitative snapshot of lead-related deaths, incidents and, injuries in the United States and magnet-related deaths, incidents and injuries in the United States and Australia. This is followed by case reports (medical accounts of victim suffering) and case vignettes (accounts of victim suffering) of children injured by lead and magnets in their toys.

Chapter Six: The 'Global' Supply Chain explores the dynamics and dimensions of the global supply chain and distribution network. It begins with a discussion of the 'global' supply chain and the risks inherent in extended supply chains that span geographical and jurisdictional borders. The discussion then narrows to a focus on the toy supply chain, with a particular emphasis on the China supply chain where these particular toys were made. This chapter challenges the notion of the 'global' in the supply chain, instead arguing for a more focused approach on the 'local', one that recognises the specificity of harm in view of the fact that the impact of supply chain activities is dispersed across different countries. Thus the health and ecological impacts are experienced by different people in different localities.

Chapter Seven: Case Study 1 - The Trouble with Lead – RC2 and Thomas™ wooden railway sets describes the key players and events leading up to and following the recall of millions of lead contaminated Thomas & Friends™ toys by American company, RC2 Corporation and distributor, Learning Curve. This case study spans the period from March 2007 (when lead was first discovered on a Thomas™ wooden railway toy) to December 2009 (when RC2 incurred a civil penalty from the U.S. Consumer Product Safety Commission. Key questions guiding this narrative are what happened?, how did it happen?, who knew and when? and what did they do with that knowledge?

Chapter Eight: Case Study 2- The Trouble with Magnets, Rose Art/Mega Brands and Magnetix™ construction sets describes the key players and events leading up to and following the recall of millions of poorly designed magnetic toys by Canadian toy giant Mega Brands (formerly Mega Bloks) and its American Arm Mega Brands America (formerly Rose Art Industries). This case overlaps with that of Mattel Inc and Polly Pocket™ and as such, both companies are referred to in the context of the narrative. Key questions guiding this narrative are what happened?, how did it happen?, who knew and when? and what did they do with that knowledge?

Chapter Nine: Recalling Toxic Toys uses the concept of corporate social responsibility as a catalyst for examining how different sized toy companies responded to some of the more high-profile recalls involving lead, magnets and a dangerous chemical in Bindeez™ beads. It examines the nature of the recall process and identifies windows of harm in that process, specifically a series of time lags that contributed to children being exposed to toxic toys for longer than necessary. It raises questions about the power of large organizations, in particular, to influence the recall process, in turn affecting the timely disclosure of those hazards to the public. This chapter links the product recall process directly to notions of corporate social responsibility (and irresponsibility) and by association corporate environmental citizenship (a key aspect of CSR). This also brings into the discussion the negative ecological consequences flowing from the disposal of contaminated raw materials (e.g. lead paint in China) and contaminated finished toys (e.g. countries of import) in the locations where these activities took place.

Chapter Ten: Denying and Mitigating Toxic Harms draws upon Sykes and Matza (1957) techniques of neutralisation and similar strategies from other disciplines (e.g. Situational Crisis Communication Theory (SCCT; image restoration strategies (Benoit 1995); and strategies of conflict resolution), to explore and analyse the strategies used by toy companies (in the west) and their supply chain partners (in China) to rationalise their actions and 'neutralise' the harms they caused. A related concern here was to try and understanding how differing business cultures (e.g. Guanxi versus Western) may have contributed to the production and distribution of unsafe products.

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Chapter 2

Methodology

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Heckenberg, D. and White, R. (2012), 'Innovative Approaches to Researching Environmental Crime' in South, N. and Brisman, A. (Eds), *Handbook of Green Criminology*, Milton Park: Routledge International. Chapter 5 of part 1.

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Chapter 2

Case Study Method

Published in:

https://www.federationpress.com.au/bookstore/book.asp?isbn=9781876067243

Heckenberg, D. (2011). 'What constitutes a good case study and what is it good for?' in Bartels, L. and Richards, K. (eds), *Qualitative Criminology: Stories from the Field*. New South Wales: Hawkins Press. Chapter 4 of Part 4.

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Chapter 3

Transference and Toxic Harms

Published in:

http://books.google.com.au/books?hl=en&lr=&id=DyOoN57-JJkC&oi=fnd&pg=PP2&dq=global+environmental+harm+criminological+perspectives&ots=zG93F8BFY-&sig=7H-nXcGZDfCy2l0u6buA4Bbjk10#v=onepage&q=global%20environmental%20harm%20criminological%20perspectives&f=false

Heckenberg, D. (2010). 'The global transference of toxic harms' in White, R. (ed), *Global Environmental Harm: Criminological Perspectives*, London: Willan Publishing. Chapter 3 of Part 1.

Chapter 4: The World of Toxic Toys

Introduction

This chapter sets the scene for the primary case series on toxic toys. It begins by defining a toy for the purposes of this study; provides a short history of toys, explores the social aspects of toys, and the relationship between toys, play and child development. It answers the question what is a toy? The discussion then turns to the questions of: who makes toys, an overview of the key players and value of the global toy sector, where toys are made and the nature of toys as commodities. The closing section is devoted to the question of what is in a toy, including the materials toys are made of, and the contaminants and components contained in and released by recalled toys.

What is a Toy?

For the purposes of this study a toy is an object used in play by adults, adolescents, children or pets. The focus is on toys for children under 15 years of age (the age cut-off used by the United States Consumer Product Safety Commission for statistics on toy-related injuries and deaths). Varying legislative age cut-offs protect children of different ages (e.g. under 3, up to six, under 14), from different hazards (e.g. heavy metals, magnets, phthalates,) according to product type (e.g. toys, jewellery). Table 4.1 shows examples of this in the Australian context.

Table 4.1: Australian Age Ceilings by Product and Hazard Type

Product		Hazard	Age	Harm	Standard/ Effective Date
	Toys and finger paints	Accessible lead and other elements	Up to **6** years	permanent damage to physical and mental health	Mandatory Effective 1/1/2010
	Toys containing magnets	Magnets[1]	Under 14 years	Intestinal injuries and death	Mandatory Effective 1/7/2010
	No holes tongue studs	Magnets	Age not specified	Inhalation to lungs/airways	Permanent Effective 1/7/2010
	Plastic toys, childcare articles, eating vessels/ utensils	phthalate DEHP at concentration about 0.1% [2]	Up to and including 36 mths	Reproductive toxicity (if chewed or sucked excessively)	Permanent Effective 1/2/2011

Source: Mandatory Standards; Permanent Bans;
Australian Competition and Consumer Commission (ACCC 2010a;2010b;2010c;2011)
Note [1]: Excludes children's jewellery
Note [2]: Covers only 1 phthalate, other countries cover up to 6

In Australia mandatory standards protect children up to six years old against accessible lead and other elements in children's toys and finger paints; protect children under 14 years from magnets in toys (but not jewellery) and protect children under 36 months from concentrations of more than 0.1% of the phthalate DEHP in plastic toys. In countries like Europe and the United States children are now protected against six phthalates) in childcare articles and eating utensils/vessels.

Although beyond the scope of this study, sex and pet toys made of PVC are also a concern for the same reasons as children's toys. Sex toys are used in close proximity to the skin, inserted into body orifices and come into contact with bodily fluids that potentially facilitate the migration of toxic chemicals from the surface of the plastic, as well as lead and cadmium where these are used as stabilisers (See Nilsson, Malgren-Hansen, Bernth, Pedersen and Pommer 2006; Biesanz 2007). Pets, like children, bite, chew, suck and drool over their toys, often sleep with them and are likely to play with toys far more aggressively than children for a greater part of their lives. A study of pet products by American advocacy group, HealthyStuff.org (Undated at http://www.healthystuff.org/findings.091609.stuff.php) found that '45% of pet products tested had detectable levels of one or more hazardous chemicals, including: one quarter of all pet products with detectable levels of lead; 7% of all pet products with lead levels greater than 300 ppm (the CPSC lead standard for children's products at the time) and nearly half of pet collars had detectable levels of lead with 27% exceeding 300 ppm'

Types of Toys

The way in which toys are categorised defines them in particular ways and has wider implications for who they are marketed to, where they are sold and who buys them. Toys can be categorised as 'mechanical, electrical and soft [or plush]' (Kumar and Pastore 2007:818), or as Jaffe (2006:3) observes, 'there are five generic types of toys that were popular centuries ago and are still in vogue today – the ball, the spinner, the rattle, the doll and the wheeled pull-along'. Broadly speaking, though, toys are categorised into new and used (or second hand).

New Toys

Branding and licensing are two important factors in the global toy sector. In 2011, the average retail price for a licensed toy was 57% higher than for non-licensed toys (Dickson 2012). Best-selling licensed properties in 2011, based on dollar sales were Cars: The Movie, Disney Princess, Star Wars, Thomas and Friends and Toy Story (listed alphabetically) (Dickson 2012). New toys are typically categorised as branded (the big toy companies), own-brand (mega retailers like Walmart, and no brand (discount stores such as Dollar General), each of which carry specific consumer expectations regarding price, quality and safety. As a general rule of thumb the higher the price, the greater the consumer's expectation of quality and safety.

Brand recognition begins early with Achenreiner and John (2003) suggesting this may be as young as three or four years old, whilst others point to brand recognition at a much younger age. For instance, Hamilton (2008:1) maintains that 'at six months a baby is able to retain brand logos'. This high visibility of branding functions to render less visible: which entertainment conglomerate? (e.g. Nickelodeon, Disney, HIT Entertainment), which manufacturer? (e.g. Mattel Inc, Fisher-Price, RC2 Corporation, Hasbro), or which country of manufacture? (e.g. China, India).

For marketing and sales purposes new toys are typically categorised by *gender, type* and *age* (not necessarily in this order). There are toys for girls (Barbie® and Bratz®) and boys (GI Joe® and Power Wheels®). There are age-specific toys (e.g., under 3, above 6), toys for groups of children within age-bands (e.g., 0-12 months,1-24 months, 2-4, 5-7, 8-11, 12+ years) or toys specifically targeted to life-stages (e.g. babies, infants, pre-schoolers, tweens, teens). Some toys are marketed to specific consumer groups (e.g., executive toys, collector's toys, antique toys). Others, like folk toys (dolls, puppets, masks and kites) reflect the dress and culture of ethnic groups. Some commemorate heroic individuals

and events (e.g. 9/11 firefighters) weapons of war (e.g., guns) or strategies of war (e.g. armies of toy soldiers).

Industry analysts, on the other hand, categorise toys in economic terms, by 'super categories' (the money spinners), as reflected in Table 4.2.

Table 4.2: Value of Toy Super Categories in the United States

Super Category	July05 –June 06 (USD)	July 06 – June 07 USD	% Change
Action figures/accessories	1.3 billion	1.2 billion	-7
Arts & Crafts	2.5 billion	2.7 billion	8
Building Sets	686.8 million	684.3 million	0
Dolls	2.7 billion	2.7 billion	1
Games & Puzzles	2.4 billion	2.4 billion	0
Infant/Preschool	3.2 billion	3.3 billion	4
Youth Electronics	962.1 million	1.1 billion	17
Outdoor & Sports Toys	2.9 billion	2.8 billion	-5
Plush	1.3 billion	1.4 billion	3
Vehicles	2.0 billion	2.2 billion	9
All other toys	2.1 billion	2.0 billion	-4
TOTAL	22.1 billion	22.5 billion	2

http://www.toyassociation.org/AM/Template.cfm?Section=Industry_Statistics 2007 sourced from The NPD Group/Consumer Panel Tracking, cited in Woo (2008: 11).

Toys can also be categorised by the materials they are made of. One of the most significant changes in toy materials has been from rubber to plastic. Freinkel (2011: 56) explains how this coincided with other events so that 'the modern toy industry is in many ways the product of major developments in the post-World War II era - the baby boom and the polymer boom -the convergence of these two broad trends sealed the marriage of plastic and play'. As a result, today, approximately 50% of toys are made from plastic, a by-product of the petro chemical industry (See Smith and Lourie 2009). The benefits for the toy industry were two-fold: 'These 'cheap, lightweight, flexible materials vastly expanded play possibilities while raising profit margins'(Freinkel 2011: 56). Even if industry did commit to phasing out phthalates (e.g. DEHP,

DBP, DNOP) immediately, there would still be a legacy of millions of plastic toys, given the longevity of materials like PVC.

Toys can also be categorised by the absence of chemicals or the presence of recycled materials. So-called 'green' toys are labelled as 'environmentally friendly' or 'eco-friendly' and made of materials like natural wood (unpainted) or organic cotton. Some hard plastic toys and infant products are now labelled 'BPA-free' or 'phthalate-free' and some jewellery is labelled "lead-free'. Although this provides some measure of reassurance to consumers, this may not guarantee that the product does not contain an alternative chemical or another heavy metal (e.g. cadmium substituted for lead in jewellery).

Used Toys

Jack Schylling, one of three brothers who run American company Schylling Inc (2013), says on the company's website (http://www.schylling.com/k/about-us) that 'the best toy is the toy that is passed along to a younger sister or brother and maybe even the next generation'. This traditional practice of hand-me-downs, of giving used toys away to charity or selling toys when children have outgrown them, means that a proportion of contaminated toys are likely to remain in circulation.

Even the product recall process fails in this regard. For instance, unreturned recalled toys, continued to circulate in informal markets like charity shops, second-hand stores, garage sales, swap meets, street markets, car boot sales and so forth. During the global recalls, some recalled toys turned up on internet auction sites, despite the fact that those sites had rules governing the sale of recalled toys. In Australia, for example second hand/pre-loved toys are regularly sold through sites like Gumtree.com and kidspot.com.au. Toys sold through second hand and charity outlets are also potentially sites for recalled toys.

The 2007 product recalls changed the shape of the used toy market. During the height of the crisis some charities stopped taking used toy donations because they simply did not have the resources to determine a toy's status (toxic or non-toxic). Even today, many charities will only accept new toys. A recurring criticism at the time was the accusation that a loophole in the United States law allowed contaminated toys to be dumped on developing markets, but America's 2008 Consumer Product Safety Improvement Act (CPSIA) legislation closed this anomaly. Although, in mid January 2009, India announced a six-month ban on all imports of Chinese-made toys' because of concerns about chemicals, more specifically phthalates.

Conceivably some contaminated toys will remain in home and community toy boxes, due to unawareness of particular recalls or some consumers decisions to retain them. Other toys likely ended up in the household trash and have found their way to the local tip, contributing to burgeoning landfills. Inside those discarded toys (whether dumped by householders or en masse by companies) are lead, cadmium, phthalates, the date-rape drug GHB and tiny powerful magnets, all of which are problematic at disposal (and beyond). Over time these contaminants can leach into soil and water and ultimately contribute to greenhouse gas emissions and climate change.

In response to numerous requests about the disposal of lead-contaminated items (including toys) the U.S. Environmental Protection Agency posted an online guideline for households and retailers/manufacturers regarding disposal. Householders can dispose of individual items to trash. However, retailers/manufacturers disposing en mass are required to assess whether the waste is hazardous according to specific testing guidelines.

For instance, 'if lead in the leaching solution is present at a concentration greater than or equal to 5 mg/l (or parts-per-million - ppm), the waste would be considered to be hazardous, and would be required to be managed as a hazardous waste' (US EPA Questions About the Disposal of Lead-Contaminated Items', Available at: (http://www.epa.gov/osw/hazard/tsd/lead/faq.htm).

Toy packaging can also be toxic (including the thin plastic bags with suffocation warnings still used by some companies). In 2007, a UK environmental group urged the public to 'stop and think before buying toys with excessive packaging, estimating that approximately 800,000 of household waste this Christmas [2007] destined for landfill would come from packaging alone' (Jacobs, *Toy News,* 6/12/2007 at http://www.toynews-online.biz/news/read/800-000-tonnes-of-toy-packaging-destined-for-landfill/039004). As they noted, 'that is just the packaging, without the toys!

At the time, Science Professor Ian Swingland pointed out that approximately 40 percent of those toys would be broken or lost within three months of Christmas, also highlighting the ecological impact of disposal:

> Because of the difficulty of recycling heavy plastics, most of these will head for the tip. Few toys biologically degrade and even batteries are not recycled, despite the poisons they contain contaminating the ground water we use (Swingland quoted in Jacobs, *Toy News,* 6/12/ 2007).

Children's Jewellery

Children's jewellery stands out as falling through the regulatory cracks in some countries, because of definitional issues around what is a toy? This is despite the fact that children's toys and jewellery are routinely marketed and sold in close proximity to one another. A Google search reveals that across internet sites children's jewellery is variously

described as 'kids jewellery', 'costume jewellery', fashion jewellery' and 'toy jewellery' and includes items such as rings, bracelets, jewellery sets, toy bead sets and earrings. In 2004, Health Canada used the term 'metal toy jewellery' in a product warning notice about the dangers of lead-contaminated rings, necklaces and bracelets dispensed from vending machines (Health Canada RA-110000145, 9/7/2004).

Some companies go to absurd lengths to link toys and jewellery in the labelling and marketing of their merchandise. Examples include 'Schylling Toys Horse Jewelry Box', 'Dora the Explorer™ and Boots necklace jewelry', Barbie™ Make It Sparkle Jewellery Box and so forth. Others blur the boundaries between childhood and adulthood, for example the new 'kidult' trend, effectively transforming a child's toy into a jewellery item for adults. LEGO's new range of 'kidult' play-themed jewellery' (The West Australian 2010) is an example of this trend. The sterling silver rings (See Figure 4.1), marketed to adults and priced at STG50 (A$90) come with two interchangeable Lego bricks available in 15 different colours.

Figure 4.1: The New 'Kidult' Jewellery

Although marketed and priced to adults, this toy/jewellery range is likely to also be attractive to children, especially girls. In launching the range, a spokeswoman from Selfridges Department store acknowledged the intergenerational appeal of the product

> "In our research we found that Lego is one of the most tactile objects for people of all ages…" (*The West Australian* , 2010).

Forthcoming 'Kidult' products include Play-Doh™ perfume and Lego™ nail varnish indicating that this trend is set to continue. It is unclear whether this is just a clever marketing ploy or an audacious attempt to circumvent new regulations around what constitutes children's jewellery. In any event, there needs to be a much clearer definition of what is and is not a toy, one that takes into account potential marketing and advertising strategies that muddy the definitional waters. For instance, in the case of jewellery, a distinction can be made between jewellery for a child (i.e. intended for the adornment of a child) and 'toy jewellery' (i.e. intended for the adornment of a toy, such as a doll).

Magnetic Jewellery

Children in countries like Europe, Australia and some states of America are now much better protected against lead (and more recently cadmium) in children's jewellery, but remain unprotected against magnets in jewellery. New industry standards introduced in the United States in 2008 (also in Australia) now require warning labels on all toys containing rare earth magnets. But the effectiveness of such warning labels has been questioned in the Australian context.

> Currently the ACCC is relying on warning labels to inform parents at point of purchase and act accordingly to protect children. Warnings of this nature have potentially little impact because once the toy is removed from the packaging the warning is no longer apparent. Whilst parents may read a warning

> message at point of purchase, there is little to suggest that this will translate into preventable behaviour once the product is in the home' (Swaminathan et al 2010: 6-7).

However, generally speaking these same standards do not extend to children's jewellery, despite evidence that the flux of magnetic jewellery can be even greater than that in toys. Flux (that is the strength of the magnetic field) matters when it comes to rare earth magnets, because these are the most powerful magnets in the world today.

In 2007 the *Chicago Tribune* (Possley 2007a) reported that magnetic earrings sold by Schylling Inc. had 'a flux index of more than 100' (twice that of the 50 threshold for toys), 'were recommended for ages 5+ and carried a choking warning for children under age 3, but no other warnings'. When told of the finding, Dr Gary Gardner, Chair of the American Academy of Paediatrics committee on injury, violence and poison prevention said:

> "I don't care whether they call it a toy or not, these are still a risk. Any magnet that can be aspirated or swallowed is dangerous" (quoted in Possley 2007a).

Once a child ingests two or more magnets (or one magnet and another metallic object) the magnetic force (or flux) they exert perforates the tissue caught between them. In the case of ingested magnets, that tissue is most often (but not always) a child's intestines. If the magnets are not removed quickly they puncture holes in the intestines, causing serious infection and sometimes death (See Chapter 7, the trouble with magnets).

The point to note here is that these magnets are less a choking hazard than they are an intestinal perforation hazard, a message that may finally be getting across to consumers in the face of the highly publicized risks from loosely attached magnets in 'desk toys' like Buckyballs® and Neocubes™. Children from toddlers to teens are

swallowing these magnets, albeit for different reasons. 'In late 2011, an 18 month old Australian child from Queensland died after ingesting 12 small, round powerful magnets from a novelty product' (New South Wales Fair Trading Media Release 2012: 1). On 23 August 2012, State and Territory government Ministers in Australia acted to place an interim (60 day) ban on loosely attached magnets sold as either desk toys or jewellery. In a media release announcing this decision in Tasmania, then Minister for Consumer Protection, Nick McKim said:

> Relevant Ministers from each state and territory have agreed to impose an interim ban on these products effective immediately, to ensure that the public is protected from the risk that these magnets pose. The Australian Government is expected to impose a permanent ban on the products following a period of consultation (McKim 2012: 1)

A Short History of Toys

Our relationship with toys dates back thousands of years and is traditionally associated with pleasure and play. 'In 1000 BC kites first appeared in China and stone yo-yos were used in Greece. In 2000 BC the Egyptians began to play a game similar to modern-day checkers and made dolls from string, fabric and paper, and the first iron skates were used in Scandinavia (Skalel, Dr Toy's Timeline at http://www.drtoy.com/toy-history/).

Then 'in 3000 BC a game resembling backgammon was played in Ancient Samira and stone marbles were first used in Egypt, with glass marbles being popularized in the United States in the 1800s (Skalel, Dr Toy's Timeline at http://www.drtoy.com/toy-history/). The first mass-produced toys are said to have appeared in 1840 when an American doll maker was granted a patent (Skalel, Dr Toy's Timeline at. http://www.drtoy.com/toy-history/

'The twentieth century saw the introduction of classic toys like Lionel trains, Lincoln Logs, LEGO building sets, Matchbox Cars, Etch-A-Sketch, Easy Bake Ovens, Nerf Balls, Cabbage Patch Kids, Pokemon and Star Wars Episode 1 figures (See Skalel, Dr Toy's Timeline at http://www.drtoy.com/toy-history/). In 1959, 'the first Barbie® doll was introduced at the New York Toy Fair, accompanied by a massive advertising campaign which referred to her as "a shapely teen-age fashion model" (do Rego Barros 1999:3-4).

As noted above a series of epochal events have changed the nature and scale of toy making including the advent of mass production, the discovery of plastic and the post World War II baby boom. But it is the advent of television, alliances between toy and entertainment industries, the digital age and the internet that have shaped the scale and reach of toy marketing. Over time strong commercial links have been forged between the toy and entertainment industries. The advent of television has paved the way for 'new markets and pioneering aggressive marketing techniques' (do Rego Barros 1999:3) and for what Beder, Varney and Gosden (2009) refer to as 'the corporate capture of childhood'.

For instance, 'in 1952 Hasbro's Mr Potato Head revolutionized the toy industry by becoming the first toy to be advertised on television, with first year sales reaching US$4 million' (Auerbach, Dr Toy's Timeline at http://www.drtoy.com/toy-history/). In 1955, Mattel Inc sponsored The Mickey Mouse Club, the first time in industry history that a toy company had sponsored a TV series' (Auerbach, Dr Toy's Timeline at http://www.drtoy.com/toy-history/) 'In 1965, GI Joe was released, based on a new television show called "The Lieutenant", with the doll proving much more popular than the TV series, much to the surprise of many toy manufacturers (Auerbach, Dr Toy's Timeline at http://www.drtoy.com/toy-history/).

By the 1960's 'western social trends began to dictate doll styles and clothing (e.g. the emancipation of women into the workforce for a career). Then by the early 1970's the focus shifted to designing an experience beyond the product' (Falcão do Rego Barros 1998: 9) says is akin to the 'lifestyle' concept we see today.

> In the 1960s girls played with a fashion shop, a school and a little theatre. Twenty later these have been related with a fitness centre, and office and a rock stage (Falcão do Rego Barros 1998:9).

During the 1970s targeted areas for products were loosely identified as 'make and play, mechanical toys, pre-school Barbie®, see and play and others' (Falcão do Rego Barros 1998:7). Television, the digital age and the internet have all changed the way in which toys are marketed, how children interact with them and the very nature of play. Toys like 'Barbie Coca Cola' are themselves consumers of products (known as product placements) and 'promote lifestyle choices heavily influenced by western ideas of affluence and consumer ideology. Mattel, for instance boasts that Barbie is not simply a toy, she's a lifestyle' (Brooks 2008: 110).

Social Aspects of Toys

Toys have a social dimension too, functioning as objects of desire, pleasure, play, education, reward, comfort and nostalgia, throughout life. Brooks (2008:109) describes the giving of toys as 'an important social ritual, enshrined in holidays, anniversaries and festivities…'. Toys are given to celebrate and commemorate important life events like marriage, graduation, birthdays, baptism and naming ceremonies. They are exchanged on festive occasions like Christmas, New Year and Thanksgiving and in countries that celebrate Halloween, toys like masks, fake teeth and face paints (some of which were contaminated with lead and cadmium) are popular items.

Toys also serve as *comforters* for babies in neo-natal units (despite concerns about bacteria), for children (and adults) recovering from cancer and for dementia sufferers. Toys provide comfort for young children, relieving the discomfort of teething and providing solace during periods of illness and emotional distress. For instance, in 2005 UNICEF distributed toys to relief centres following the Indian tsunami and to southern Kyrgyzstan to help children deal with the stress associated with civil unrest in the region. (UNICEF 2005 at http://www.unicef.org/infobycountry/index_25263.html)

In the aftermath of Hurricane Katrina toy companies like Hasbro, Mattel, Toys "R" Us and others donated thousands of toys to affected children. In June 2008, toys were used as a form of social protest when school children in Costa Rica exchanged toy weapons such as guns for sporting equipment and notebooks to mark the global week of action against gun violence (UNICEF 2008).

Sometimes toys are used as 'rewards'. For instance, in July 2010, the United States Consumer Product Safety Commission (USCPSC) recalled approximately 66,000 charm bracelets and 2,200 rings containing high levels of cadmium that had been distributed free to children for attending the dentist or doctor (See USCPSC Release 2010a). Every year, around the world, toys are donated to charities for distribution to underprivileged children or placed under special Christmas giving trees for the needy.

Toys and Play

The idea of 'play' is said to have begun in India in 6000 BC with the game called "Chaturanga", an ancestor of chess, or a Babylonian board game in 4000 BC (Dr Toy's Timeline at http://www.drtoy.com/toy-history/). Children can be great improvisers when it comes to play. For instance, 'in the late nineteenth century a poor child in London's east end wrapped an old shoe in a cloth and chalked a face on its heel – such is the need to play' (Jaffe 2006:3). The right to play is also enshrined in

Article 31 (1990:9) of the United Nations Convention on the Rights of the Child (Play England 2009: 3). Even in the absence of mass produced toys, children still find ways to play. For instance, 'in the late nineteenth century a poor child in London's east end wrapped an old shoe in a cloth and chalked a face on its heel – such is the need to play' (Jaffe 2006:3). Children in the 1950's painted faces on wooden pegs and glued fabric to the peg's body to emulate clothing. Painted peg dolls can still be found today in tourist outlets, often depicting historical characters Children also improvise using objects like pots, pans and metal spoons or climbing in and out of cardboard boxes.

In poorer countries (like Malawi in Africa), children make toys from waste such as discarded milk cartons, cigarette containers, cornhusks and whatever trash they can find lying around (Fehrenbacher 2008). In war torn parts of the world, such as Iraq, the association between toys and play takes on a more sinister connotation, as children collect discarded depleted uranium shells to use as toys (South Movement 2006 cited in White 2008:42). In Afghanistan, naturally curious young children pick up Soviet-made butterfly mines that 'although not designed to look like toys …can still hold a deadly attraction …' (Machel 1996:27)

For the worldwide toy industry, the 'vital importance of toys' (ICTI Care Foundation 2006) is captured in the following declaration, proposed by the Spanish Toy Association and endorsed in 2006 by the International Council of Toy Industries (ICTI), the global industry body for toy manufacturers:

1. Children have played with toys throughout history and in all cultures. Toys promote children's well-being.

2. Toys have a central role in children's play with one another and help them develop socially.

3. Toys support the right to play in childhood which is essential to healthy child development.

4. Restriction of the right to play and the time to play has serious consequences on children's development and their later behaviour as adults.

5. Toys are vital tools that help foster the mental, physical, emotional and social development of boys and girls.

6. Toys support the right to education through encouraging play and learning.

7. Toys are basic instruments for development of children's fantasy, imagination and creativity.

8. Toys are available for all stages and ages of child development. They enrich family life by fostering fun, amusement and communication between all family members, regardless of age.

9. A safe secure environment is essential for play. Toys must be safe and of high quality to avoid foreseeable hazards.

10. Providing they comply with all the conditions necessary to ensure children's safety, toys are an integral part of their development (ICTI Care Foundation 2006at http://www.icti-care.org/resources/importanceoftoys.htm)

The British Toy and Hobby Association (BTHA 2009) identify different types of play, each with its own characteristics and benefits (See Table 4.3)

Table 4.3: Types of Play

Type of Play	Description
Exploratory play	Becoming aware of the world – sounds, sights, wanting to touch and taste
Constructive play	Discovering how things work, taking them apart, putting them together again and learning about size, weight, colour, shape and materials and texture
Energetic play	Practicing new physical skills so that the growing child becomes better at running, climbing and other required activities
Modelling play	Learning from watching others and copying them
Pretend play	Playing in a world of fantasy and imagination usually without any interference from parents or other adults
Social play	Learning to play with others where those you play with are more important than the game itself
Skilful play	Playing that requires care and practice

Source: Tabulated from British Toy & Hobby Association (BTHA 2009). <http://www.btha.co.uk/education/template.php?id=161>

As the nature of play has changed, Varney (1999: 22) notes that 'traditionally toys were peripheral to play, that is in most cultures and eras toys fitted into play rather than play being determined by the plaything as is the case with so many of today's toys. Changing patterns of play are also reflected in the emergence of a consumer group referred to as KGOY (Kids Getting Older Younger). Whereas 'for many years toys were targeted at children aged 14 and under, now the upper band has moved down to age 12 and threatens to drop by as much as two years, thanks to media and other forces that cause children to aspire to adolescent interests at younger ages' (Gogan et al Undated, 7).

Toys and Child Development

What is clear from the above ideals is that the design of toys is intertwined with child development. This association between toys and child development appears to have entered the equation as early as 1914 when Charles Pajeau developed *Tinker Toys*, which were marketed

with a view to improving balance and co-ordination while developing gross motor skills (Auerbach, Undated). Brooks (2008: 109) notes that 'since ancient times adults have developed a variety of toys for children to play with from yo-yos and dolls to dice, to stimulate their imagination, teach them physical dexterity, sharing and co-operation, enhance their cognitive abilities and keep them out from under busy grown-up feet'. Through play children are said to learn to problem-solve, communicate, use imagination and be creative and physical play is said to assist in developing agility, balance, co-ordination and fine motor skills. Toys then, 'play a key role in the social, physical and intellectual development of children' (The Children's Hospital at Westmead, Safety Fact Sheet, 2008: 1).

But the toys in this study were the antithesis of these ideals. These toys contained chemicals and heavy metals that were *harmful to health and wellbeing,* particularly at *certain stages and ages of development* when children are especially vulnerable to environmental toxins. The parents of a child at a play centre in the United States believed their child was playing in a *safe secure environment* when magnets fell out of a poorly designed toy onto the play centre floor and their son swallowed them, suffering serious intestinal perforations. This toy did *not comply with safe design standards* and what made the situation even worse (and would later come to light) is that by the time he swallowed those magnets, the company in question (Rose Art/Mega Brands) had already received hundreds of reports about magnets dislodging from these toys (See Chapters 5 and 8).

Toys are Commodities

Some scholars, like Varney (1999) argue that 'the participation that was once a frequent ingredient in play has been replaced by a very different sort of participation, which revolves around toys as commodities'

> a typical well-promoted toy may have a movie made about it, a television series, a fast-food tie-in, a breakfast cereal linked to it

> and a plethora of merchandise such as sneakers, lunch boxes and bed sheets featuring the toy on their design'(Varney 1999: 1).

In part, this transition has been facilitated through marketing and advertising. Popular marketing ploys that reinforce the perception of toys as commodities include promotional toys given away as free gifts with other products (e.g. clothing, footwear) and toys given away with fast food meals (e.g. McDonalds Happy meal toys), often as part of a collectible 'series' that has children returning again and again to collect the whole set. A second strategy is planned obsolescence, which can be achieved by 'instilling in the buyer the desire to own something a little newer, a little better, a little sooner than is necessary' (Stevens cited in Adamson 2003: 129). Another strategy is to actually engineer a toy's demise (Beanie Babies are an example of this) where the idea of scarcity (e.g. retirement) increases demand. Inevitably the outcome is waste.

The toy industry has close links with the entertainment and film industry. Varney (1999: 21) describes the toy industry as 'an arm of a broader entertainment and commodity industry which organizes its promotions to children, reinforcing the wares on offer through cross-promotion and multi-layered promotion', citing as an example:

> The closest *promotional toys* come to encouraging participation or being part of a community is to urge potential consumers to be part of a community that eats at McDonald's, shops at Toys "R" Us and wears Reebok shoes. (Barbie®, for instance, wears Reebok shoes and promotes these companies among many more) (Varney 1999:30)

It was once thought that a child needed companions in order to be able to play meaningfully, now it seem a child *needs* toys as "friends". A Google search reveals many examples of this including - Barbie Dolls & Friends, Will you be Barbie's friend? Thomas and Friends, Funky Friends Cozy Friends Play Gym, Friendship Toys Online at Target, Hasbro toys Fur Real Friends Butterscotch Pony, Floppy Friends Horse

toys to name a few. The 'friends' concept also extends to children's jewellery, including cumbersome labels like 'Alex Toys best friend bracelet set'.

An article entitled 'Virtual toys online friends – the latest trend' describes how 'many of the toys being introduced at the American International Toy Fair in New York don't require batteries, but come with a web site where participants can play with virtual images of the same toy' (*The Washington Times 2008*). Some scholars directly challenge the toy industry's claim that children, rather than profit, are their first priority.

> Far from having the best interests of children at heart, their primary interest lies in market share and profit making, in an age of techno-capitalism, where the urge to buy more is not only imprinted in the psyches of children and adults but is a fundamental aspect of the toys themselves (Brooks 2008: 110).

Michelle Archer, a reporter for *USA Today* says 'if there are two characteristics that stand out as dominating criticism of the toy industry they would have to be what Clark (2007: 211) describes as 'grabbing them young' and 'Santa's Sweatshop' (Clark 2007: 252). Archer, notes that 'Grabbing them young reveals the sometimes nefarious marketing methods aimed squarely at kids as young as six months and Santa's Sweat shop is a quick but chilling ride through China, where about 8,000 toy factories and three million workers produce the bulk of U.S. toys' (Archer, *USA Today*, 28/1/2007). The counter claims are that toys are invaluable developmental and educational tools.

Brooks (2008:109) notes that 'somewhere along the production line, the relationship between adults, children and toys has irrevocably changed… toys no longer signify what they used to or serve quite the same purpose'. Further, that 'these days children *need* toys not just for play, but for social currency' and that 'kids who don't have the 'right stuff', 'can be cruelly ostracised' (Brooks 2008:110).

Who Makes Toys?

Toy manufacturing is big business. At the time of the 2007 recalls, the global toy sector was worth approximately US$71.0 billion, with some (estimates as high as US$105 billion (NPD Inc 2007).The industry was predicted to reach US$122.2 billion by 2012, with developing economies in Asia-Pacific and Latin America poised to drive future growth (Global Industry Analysts 2008). The toy industry is 'highly competitive and global in nature, characterised by short product life-cycles, seasonal demand, constant, product innovation, time to market [speed], and high product turnover, with very few products having what it takes to last longer than one or two years' (Gallagher 2008: 122). For most toy companies it is the holiday season that is the most lucrative, with 'the third and fourth quarters of each fiscal year usually bringing in the most sales' (cited in Woo 2008:12). These market dynamics 'put pressure on manufacturers and their suppliers to act quickly' (Dannwolf et al 2011:12).

Table 4.4: Dynamics of the Toy Industry

Market Dynamics	Market Players	Toy Characteristics	Market Structure	External Pressures
• Dynamic • Fast-moving • [Fad] driven • Seasonal	• Fragmented • Competitive	• Inexpensive products • Hetereogeneous product range	• Small market in terms of buying power/ • materials consumption • Formal markets and informal markets	• Regulation • Sensitivity • Awareness in some regions

Source: Dannwolf et al 2011: 12

Key Players in the Global Toy Sector

The global toy sector 'is characterised by only a few large players and thousands of small to medium companies' (Dannwolf et al 2011: 8; Woo 2008).Examples of key players include American toy corporations Mattel Inc (and subsidiary Fisher-Price), Leap Frog, Hasbro, MGA Entertainment and JAKKS Pacific; Bandai (Japan), Lego (Denmark), Leap Frog (and Canadian toy giant Mega Brands. Companies of a smaller size but with a global reach include RC2 Corporation (now owned by TOMY Japan) and Schylling Inc (a family owned company with a global reach). Choice Australia (2008), describes the toy industry as 'complex and comprising manufacturers, distributors, importers, wholesalers, retailers and any combination of these'.

Table 4.5: Global Toy Sector by Country and Volume

Country	Size of Toy Market Million USD 2008	Country Share of Toy Market
United States	21,510	26.8%
Japan	5,820	7.2%
China	4,954	6.2%
United Kingdom	4,317	5.4%
France	4,239	5.3%
Germany	3,420	4.3%
Brazil	2,773	3.5%
India	2,091	2.6%
Australia	1,881	2.3%
Canada	1,872	2.3%

Source: Dannwolf, Ulmer, Cooper and Hartlieb (2011: 8)

Global Industry Bodies

The global toy industry is networked through the International Council of Toy Industries (ICTI), based in New York. The American arm of this Association, the TIA, played an active role during the product recall crisis, 'collaborating with the Chinese Government's General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) to force tighter testing protocols on Chinese manufacturers (Woo 2008:15). On 15 November 2007, the Toy Industry Association and the Chinese Government co-hosted a toy safety conference in

Guangzhou, China, attended by representatives from almost 300 Chinese toy manufacturers (Woo 2008:15).During the recall crisis, ICTI also issued various statements about lead in toys, including this one reassuring consumers about toy safety whilst simultaneously diminishing the scale of the problem:

> These recalls do not reflect the situation of the entire toy industry and represent a very small percentage of the products we sell. The vast majority of toys are safe as they always have been and we as an industry are dedicated to ensuring that consumers can once again be confident in the safety of toys for their children (ICTI 2007a Statement on Lead http://www.toy-icti.org/info/lead_in_toys.htm).

As to the controversial issue of phthalates in toys (now regulated in both Europe and the United States), the ICTI states on their website that:

> Recently, some groups have raised concerns about phthalates, an ingredient that makes vinyl soft and pliable. Critics have taken a potpourri of scientific half-truths and developed a campaign alleging that vinyl products containing phthalates pose a danger, especially when used to make products such as children's toys. They claim that harmful chemicals migrate from the soft plastic and accumulate in the human body causing serious health threats. These allegations are simply not true and do not stand up to scientific scrutiny (ICTI 2007b, Vinyl Toys Are Safe at. http://www.toy-icti.org/resources/vinyl_toys.html)

> The toy industry is concerned that parents and consumers are unfairly targeted and frightened by extremist environmental groups. We would like to take this opportunity to clarify misinformation about vinyl and any potential threats to the health and well-being of children. None of the claims made by critics have been supported by reliable scientific evidence. If there were any truth to these claims, we would be the first to eliminate any hazardous ingredients. We would never compromise children's safety. After all, we have children too (ICTI 2007 b, Vinyl Toys Are Safe at: http://www.toy-icti.org/resources/vinyl_toys.html

The hands that make the toys

A group of stakeholders often overlooked in discussions about toxic toys are foreign factory workers (the hands that make the toys). In the course of their work they injection mould, die-cast, paint, glue, assemble and package the toys. Like the children who played with the toys, these factory workers too were exposed to the same chemicals and heavy metals, as well as other supply chain toxins routinely used in toy production such as solvents and glues.

These are women and men of reproductive age (issue here is exposure to certain chemicals and links to reproductive disorders), typically between the ages of 18 and 28 who have often left families in rural communities to toil long hours for low wages and who live in corporate dormitories in proximity to the factories in which they labour.

The International Centre for Corporate Accountability (ICCA 2008) report on seven of Mattel's Vendor Plants (all located in Guangdong Province China) describes the typical workforce profile (see Table 4.6):

Table 4.6: Workforce Profile

Plant No.`	Gender	Ave Age	Min Hiring Age	Education High School	Education Middle School	Average Employment Years
5 & 6	85% female	28	16*	90%	10%	3
7	65% female	22	16**	15%	80%	3
13	90% female	25	18	20%	80%	1.5
19 & 20	85% female	21/24	16*	11%	90%	1
21	65% female	20	18*	15%	80%	1.3

*No employees under 18
**Workers aged 16-18 represent 9% of the workforce
Source: International Centre for Corporate Accountability (ICCA) Audit Report, Mattel's Vendor Plants (2008), Rev 25/1/2008.

The literature relating to exploitation of foreign workers in export factories, including China, dates back several decades. Recent examples include Chan and Siu (2010) on low wages and excessive overtime; Egels Zanden (2007) on Multinational Companies (MNC's) codes of conduct and behind the scenes at Chinese toy suppliers. Other scholars have looked at specific incidents such as a 1993 fire at the Zhili Toy Factory in Gunangdong that killed 87 workers (Chan and Senser (1997). Scholars like Egels-Zanden (2007) and Sethi et al (2011) have examined compliance issues with respect to Multinational corporations' codes of conduct. Others, like Schrempf-Stirling and Palazzo (2013) draw the links to 'upstream corporate social responsibility'. This issue of corporate social responsibility, as it relates to different size toy company responses to the issue of unsafe toys is explored further in this thesis (see Chapter 9).

As noted earlier, this thesis focuses unapologetically on the victimisation of children (as consumers). But this is not to say that the author is unaware of the academic and wider literature on labour standards and human rights or unconcerned about the risks and impacts faced by Chinese toy factory workers, including labour exploitation, long hours and unpaid overtime, workplace health and

safety hazards, isolation from family and living conditions in toy factory dormitories.

Where Are Toys Made?

In times past, toys were manufactured domestically, in small numbers in cottage industries. What differentiates today's toys is that the majority are mass produced in off-shore locations, under conditions with differing humanitarian and safety standards and in countries with diverse political and regulatory regimes. Those 'factors that make China an attractive off-shore destination include low wages, a highly efficient industrial network clustering, lax environmental regulations and enforcement and minimal worker health and safety regulations' (Navarro 2007: 4), as well as 'low raw material costs' (Kavilanz, *CNN Money*, 11/9/2007). China's off-shore facilities manufacture 'a single product or set of products in highly localized supply chains that extend a just in time [speed to market] principle to the entire supply chain' (Navarro 2007: 3).

Mattel, for example, manufactures its toys through a global network of manufacturing facilities including Tier 1: '11 manufacturing and tooling facilities owned, operated or managed by Mattel in China, Indonesia, Malaysia, Thailand and Mexico; Tier II: approximately 75 contract factories not owned, operated or managed by Mattel, mostly in China and some in India and Brazil, and Tier III approximately 1,000 licenses who have signed agreements with Mattel to use their logos and characters and approximately 1,000 licensees who have signed agreements with Mattel' (Mattel Global Citizenship Report 2007: 7).

The majority of the toxic toys in this study were manufactured in Tier II type factories in China - that is factories not owned or operated by the toy corporations that commissioned the toys. In Mattel's case, contract facilities like these manufacture 50% of all their toys and 'for some of these factories, Mattel's business may represent as much as 30 to 50% of their annual turnover, making them highly reliant on Mattel's

continued 'loyalty'. Johnson (2005: 22) suggests that the advantages of this 'dual sourcing strategy achieves high productivity in corporate owned plants while ensuring changes of customer demand and performances can be satisfied through outsourced partners'. At the time of the recalls the Chinese toy sector was estimated to be made up of approximately 2,700 companies (Dannwolf et al 2011: 9; Woo 2008).

What is in a Toy?

As a product category, toys are highly heterogeneous in terms of the variety of materials used' (Dannwolf et al 2011: 12). In times past toys were made from natural materials like untreated wood, fabric or wool and produced in small quantities in the home or in cottage industries. Over time, plastic has replaced more traditional materials such as wood and fabric and it is now estimated that approximately 50% of the world's toys are made of plastic, a by-product of the petro-chemical industry. Some of these substances are not chemically bound to the surface of the products and are known to migrate either directly into the air or to enter a child's body through contact with saliva when they chew or suck on toys and trinkets. Risk of exposure to toxins is exacerbated when a child is teething or when toys are used as 'comforters' at bedtime or during times of illness.

In June 2007, the discovery of lead in Thomas & Friends® wooden railway sets triggered a spate of recalls that served to connect toys and toxicity in the public imagination. Also affected were high-profile brands like Dora the Explorer™, Barbie ®, Winnie-the-Pooh®, Go Diego Go® for lead; Polly Pocket® and Magnetix® for small powerful magnets that dislodged; Bindeez® and Aqua Dots® for a chemical that metabolised in the body as the date-rape drug GHB, and chemicals called phthalates (thall-eights) routinely used to make plastic toys soft and flexible.

The toxic toys in this study were predominantly made of wood, metal or plastic and affected jewellery from metal or pearl-like materials.

Unfortunately some of the substances added to toys are not chemically bound to the surface of the products and they migrate either directly into the air or enter a child's body through contact with saliva when they chew, bite or suck on toys and trinkets. At least two children are known to have died from lead poisoning, one from swallowing a heavily leaded charm from a promotional toy sold with footwear and the second after opening a set of heavily contaminated toy cars. The true nature of deaths and injuries is unknown because there are no global statistics on how many children died or were injured by lead-contaminated toys.

In other cases tiny powerful magnets that dislodged from certain toys were swallowed by children, causing life-threatening intestinal injuries and two known deaths (one child in the United States after ingesting magnets from a Magnetix™ construction set (2005) and one child in Australia after ingesting magnets from a desk toy (2011). Although rare earth magnets continue to be lawfully incorporated into children's toys, if they do dislodge and are swallowed the consequences can be truly awful. Again, there are no global statistics on the number of children killed or injured by these magnets, although statistics are more prolific than those on lead-related injuries and deaths. Available statistics are largely silent on the victimisation of children in the developing world.

Conclusion

This chapter has set the scene for the primary case study on toxic toys, answering preliminary questions about the nature of toys, how toys are categorised and the social aspects of toys. It has provided a short history of toys and contextualised toys in the wider social landscape of the rituals of giving, receiving and celebration. It has introduced the key toxic contaminants and deadly components found in children's toys during a spate of global recalls. Chapter 5 focuses on two of the most prolific hazards found in children's toys (lead and magnets) through the lens of transference where the focus is on lifecycle harms from origin to disposal (and beyond).

Chapter 5: Toxic Contaminants and Deadly Components

Introduction

This chapter begins with a brief overview of the key toxins found in children's toys including patterns of exposure and the consequences of those hazards for humans. More specifically it examines two of the most prolific toy hazards (rare earth magnets and lead) that migrated out of certain children's toys and were the subject of global recalls between 2006 and 2008.

Each hazard (the trouble with magnets; the trouble with lead) is examined through the lens of transference where the key questions are: where is this (contaminant, component) coming from? where is it going to? and what are the consequences for human (e.g. children) and ecological health. The closing section presents a quantitative snapshot of lead-related deaths, incidents and, injuries in the United States and magnet-related deaths, incidents and injuries in the United States and Australia. This is followed by case reports (medical accounts of victim suffering) and case vignettes (accounts of victim suffering) of children injured by lead and magnets in their toys.

Toxic Toys

Drawing upon Becker, Edwards and Massey (2010: 7987), Table 5.1, presents an overview of the major toxins found in children's toys and jewellery, the nature of the hazards (for humans), and the pathways of exposure into children's bodies.

Table 5.1: Key Toy Toxins

Chemical	Hazard	Pathways of Exposure
Lead (Pb)	• Neurotoxin • Harmful to most organs and systems in the human body • Infants, children and the developing foetus are particularly vulnerable.	Toys and children's jewellery can contain Pb paint and leaded metal clasps, chains or charms. Pb is used as a stabilizer in some toys and other children's items made from PVC plastic. Pb can leach out of products when children handle, suck or swallow them.
Cadmium (Cd)	• Carcinogen • Can cause bone softening and kidney problems and hinder brain development in infants and children.	Used in surface paint and base material of children's jewellery, toys, other products. Cd can leach out of products when children handle, suck or swallow them.
Phthalates	• In animal studies, phthalates have been found to be reproductive and developmental toxicants, and to damage liver, kidney, heart and lung. • A recent study found reduced male-typical play behaviour in boys whose mothers had prenatal exposure to anti-androgenic phthalates	Phthalates are used as softeners in PVC plastic products. These chemicals are not bound in the plastic substrate and can leach out when children mouth teethers, toys or other products.
Brominated flame retardants (BFRs)	• Persistent toxic chemicals that accumulate in people and wildlife and contaminate breast milk and umbilical cord blood.	There are few studies of BFRs in toys. A recent study examined 69 toys purchased in China – including Barbie™ and other dolls, soft plastic teethers, swords, race cars, foam toys and action figures, and found PBDEs in all hard plastic, foam and stuffed toys, and in a third of soft rubber toys. Higher exposures to BFRs were observed for infants and toddlers than older children
Azo dyes (certain dyes)	• Certain azo dyes, on reductive cleavage of one or more azo groups, form carcinogenic aromatic amines such as benzidine.	Azo dyes represent 60-70% of all dyes commonly used in the textile and leather industries and can be found in textile or leather toys and toys that include textiles or leather garments. Azo dyes may be absorbed through dermal, respiratory, and intestinal routes. Non-fixed, water-soluble azo dyes can also come into contact with skin through perspiration.
Bisphenol A (BPA)	• Estrogenic effects • Epidemiologic studies have linked BPA to diabetes and cardiovascular disease. • A recent study found that low level exposure to BPA in pregnant women may affect the foetus	BPA is used in the manufacture of polycarbonate plastic and epoxy resins. Until recently, polycarbonate was commonly used in baby bottles. BPA may also be found in linings of canned foods and in dental sealants.

Source: Adapted from Becker, Edwards and Massey (2010:7987)

The Hazards

The following section examines two of the most prolific hazards (rare earth magnets and lead) that migrated from certain children's toys and were subject to global recalls between 2006 and 2008. Each hazard (the trouble with magnets; the trouble with lead) is examined through the lens of transference where the key questions are: where is this (contaminant, component) coming from? where is it going to? and what are the consequences for human (e.g. children) and ecological health.

The Trouble with Magnets

The trouble with rare earth magnets is that 'they are approximately ten times stronger than even the strongest ferrite magnets and they are, as a result, able to exert a powerful magnetic field even through human tissue' (Quinlan 2008: 37) The ingestion of multiple magnets is widely acknowledged as a global problem, one that inflicts serious injury on the gastrointestinal tract of the children who swallow them (Oestreich 2009; Swaminathan, Baker & Scott 2005, Cauchi and Shawis 2002; McCormick, Brennan, Yassa and Shawis 2002; Gregori and Morra 2007). Described as the strongest magnets in the world, 'the low cost of neodymium iron boron (NIB) magnets and their diminishing size in proportion to strength has inspired new uses' (Swaminathan et al 2010: 5).

What are rare earth magnets?

Rare earth magnets are called 'rare earths' not because of their scarcity, but because neodymium is one of the seventeen "rare earth elements" on the periodic table (See K & J Magnetics Inc, Frequently Asked Question Undated at http://www.kjmagnetics.com/FAQ.asp). There are 'two types of rare earth magnets: samarium-cobalt and neodymium (Wade 2011: 1). However, 'Neodymium (also known as Neodymium Iron Boron magnets) are the strongest permanent magnets in the world'

(K & J Magnetics Frequently Asked Questions No. 3 (Undated). They are also the ones most likely to be found in children's toys, because of their affordability (for the time being).

As illustrated in Figure 5.1, rare earth magnets come in varying shapes and sizes including arcs, rods, blocks, cubes, discs and spheres and so forth.

Figure 5.1: Types of Rare Earth Magnets

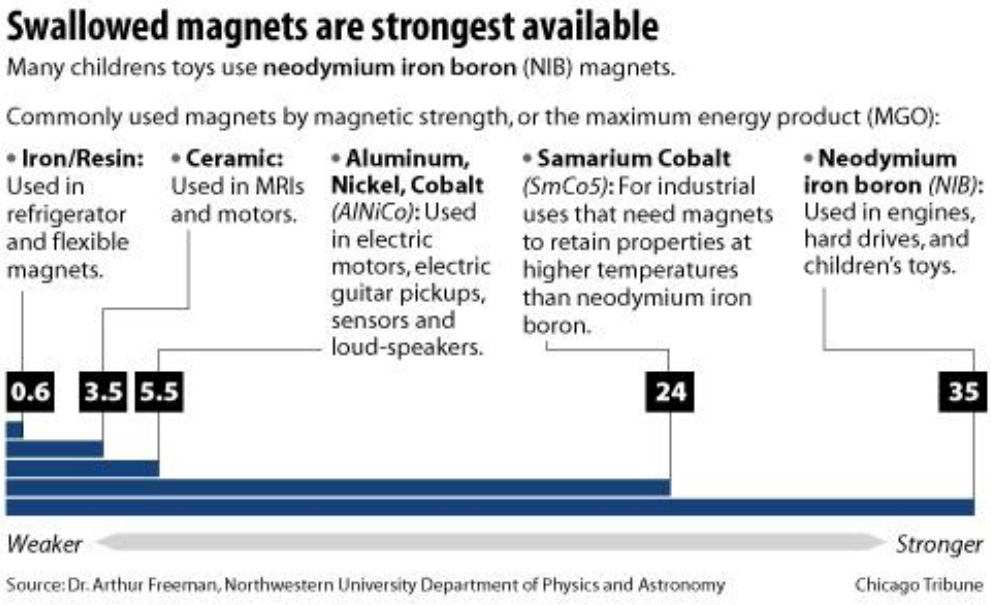
Source: National Magnets LLC, Magcraft® (2003-2010 permanent magnets at <http://www.rare-earth-magnets.com/t-about.aspx> (4 August, 2011)

What differentiates rare earth magnets from other types of magnets is their flux [strength of magnetic field] (See Figure 5.2). Swaminathan et al (2010: 5) define flux as"

> A measure of quantity of magnetism, taking into account the strength and the extent of a magnetic field. The "Strength" of the physical magnetic force inherent in a magnet decides how tightly the magnet attracts and binds to another magnet

The small size of these magnets not only belies their strength, but also 'increases their potential for ingestion or insertion by children (Swaminathan et al 2010; Devenyi 2009).

Figure 5.2: Commonly Used Magnets by Magnetic Strength



Source: Callahan (2007), *The Chicago Tribune,* citing Freeman, Northwestern University Department of Physics and Astronmy

Are All Magnets the Same?

Generally speaking refrigerator magnets are not rare earths. Instead they are made from 'inexpensive oxides of iron and other metal such as barium… often the ferrite is in powder form and dispersed within plastic or rubber (Livingston 2004: 18). Although not as powerful as

rare earth magnets they can still pose a choking and poisoning hazard, especially for young children. Magnets and erasers that look and smell like food are particularly appealing to small children (See Figure 5.3). Children can potentially 'mistake them for the real thing. If chewed [and] if chewed they could splinter and if mouthed the magnet could choke a child – or be toxic' (ACCC Safe Toys For Kids 2009: 15).

Figure 5.3: Magnets That Look Like Food

Source: Australian Competition and Consumer Commission (2013) Eraser and Fridge magnets in food at: http://www.productsafety.gov.au/content/index.phtml/itemId/971373

A recent study by the Queensland Injury Surveillance Unit in Australia (Swaminathan et al 2010: 2) found that 'only children under the age of four years were identified as having been injured due to fridge magnets'. Having said that, some online traders do suggest that rare earth magnets can make 'good fridge tidies' however, if you have children or are likely to have children in your home you should avoid using them in this way.

> Neodymium magnets can help reduce clutter and hang even large objects from your fridge (Bunting Magnetics Company at <http://buymagnets.com/uses-for-neodymium-magnets/>).

The U.S. Consumer Product Safety Commission (2012b: 31) notes an example where a family purchased two sets of magnets. The family used some as refrigerator magnets that were within reach of a three year old child. The child ingested several of them over two days before their absence was noted (USCPSC 2012b: 31).

Where Do Rare Earth Magnets Come From?

Rare earth magnets are not created in a political and economic vacuum, but are part of the race for rare earth elements around the world. In 2011, Nicholas Curtis, CEO of Australian rare earth mining company, Lynas Corporation, told a *Sydney Morning Herald* reporter that "we are as addicted to rare earths as we are to oil, we just don't know it" (Wen 2011, *Sydney Morning Herald,* 14/7/2011). Although not rare in themselves, REEs are concentrated in just a few locations in the world (Powell 2011: 18), and at the time of writing this is China.

Currently, as Humphries 2010:7-8) explains 'China has a monopoly on deposits and in 2009, produced 95% of the world's rare earth element raw materials; manufactured 75% of the world's neodymium magnets and 60% of the samarium magnets' .Besides their use in children's toys and jewellery, neodymium iron boron magnets are also common in consumer electronics, green energy technologies and defence applications. For instance, they are 'essential to many military weapons systems' and samarium-cobalt magnets (another type of rare earth magnet) are used in military technologies like precision-guided missiles, smart bombs and aircraft (Humphries 2012:7).

> Neodymium magnets are 'produced by mixing iron, boron and neodymium powders before pressing them into the required shape …the blanks are then magnetised and are five to ten times as strong as plain iron magnets'. (McCormick et al 2002:72). Online manufacturers and distributors of rare earth magnets note their specific characteristics. For instance, K & J Magnetics Inc note that 'If neodymium magnets are not plated the iron in

> the material will oxidise very easily if exposed to moisture… even normal humidity will rust the iron over time (See K & J Magnets Incat http://www.kjmagnetics.com/faq.asp#drill)

The grab for rare earth elements also comes at a human and ecological cost. The rare earth elements (REE) global supply chain involves five stages, described by Humphries (2010:8) as:

1. Mining [use of chemicals in extraction],
2. Separation [use of chemicals],
3. Refining oxides into metal [chemicals, pollution of wastewater],
4. Fabrication of alloys,
5. Manufacturing of magnets and other components.

In an article in *the New York Times,* Bradsher (25/12/2009) notes that some rare earth mining techniques have caused significant environmental damage:

> In south eastern China, for instance 'miners scrape off the topsoil and shovel golden-flecked clay into dirt pits, using acids to extract the rare earths. The acids ultimately wash into streams and rivers, destroying rice paddies and fish farms and tainting water supplies'.

Others argue that the process of separation (stage 2) 'produces waste water, sometimes containing potentially harmful materials, including radioactive thorium, radium, and uranium, which require careful recycling or disposal' (Hurst 2010 cited in US Magnetic Materials Association 2011:3).

An online trader notes the issues surrounding disposal of these types of magnets:

> All strong permanent magnets should be thermally demagnetised prior to disposal. Alternatively, all strong permanent magnets should be placed in a steel container prior to disposal, so the magnets do not attract waste disposal equipment or refuse containers (Magcraft 2010, Available at: http://www.magcraft.com/safety).

These issues are important when considering the ecological impact of rare earth magnets, especially those embedded in toys.

Toys Containing Rare Earth Magnets

These tiny powerful magnets are typically embedded in the plastic parts of play sets such as the hands and feet of dolls like Mattel's Polly Pocket® and MegaBrand's Magnaman® action figures. They enable children to snap clothing, hair pieces and other accessories onto a doll or action figure. They are also encased in the plastic coated joining rods used to connect the pieces in construction sets like Magnetix®, embedded in magnetic jewellery clasps, in the tips of magnetic darts and used to link strings of ferrous beads together.

As indicated by those who trade in these magnets, they have a wide range of uses:

> Our spheres, discs and cubes are often used to form magnetic bracelets and necklaces. Our smaller magnets (large ones will pinch and hurt) are often used as pierce-free body jewelry. Smaller discs and rings are often used to close bracelets and necklaces, perfect for people that can't quite do those tiny clasps and snaps. We have custom made rings that are specifically designed for this application (K & J Magnets Inc 2003-2012)

> Some are even used for 'holding a pacifier in a dolls mouth' doll's mouth – our D42 discs are a favourite of Berenguer Baby enthusiasts. The magnets will also work well with other dolls, teddy bears and stuffed animals'. (K & J Magnets Inc 2003-2012)

In fact, according to K & J Magnet Inc. 'these magnets are used for just about anything you can imagine'.

Examples of the range of children's products containing magnets include:

- Construction or building sets
- Jewellery
- Puzzles
- Action figures and dolls
- Alphabets and numbers
- Science and craft kits
- Board games
- Vehicle sets
- Magnetic dart sets

More recently, the popularity of desk toys has heightened the exposure of children to these small powerful magnets, which are typically loosely attached and readily accessible (See Figure 5.5). 'Each unit of the neodymium magnet has approximately 125 to > 1000 magnetic balls and can be purchased on the internet and in other retail outlets (Hussain et al 2009: 239)

Figure 5.4: Typical Sets of Magnets

Source: U.S. Consumer Product Safety Commission (2012: 2)

Although these types of 'magnet sets have only been available since 2008 the USCPSC has 'determined that an estimated 1,700 ingestions of magnets from magnet sets were treated in emergency departments between 1 January 2009 and 31 December 2011) (USCPSC 2012: 1). To illustrate the currency of this issue, Hussain et al (2012: 240) refer to 'an informal survey of North American Society of Paediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) members in Spring 2012 [that] identified significant morbidity in >80 magnet ingestions, which resulted in 39 endoscopies, 26 surgeries, 26 bowel perforations and 3 bowel resections' (Hussain 2012:24).

For instance, In June 2012, a three year old American girl swallowed 37 magnets from a Buckyballs® desk toy. She 'ate' the magnets because they looked like the silver sprinkles (See Figure 5.4) her mother used to decorate cupcakes.

Figure 5.5: Silver Sprinkles

Inside her body the magnets joined together end to end, forming a circle that appeared on x-ray as a bracelet, but which subsequently perforated her intestines in four places. Provided the rare earth magnets used in children's toys and trinkets remain cheap and plentiful, they will continue to be used in children's toys and jewellery in the foreseeable future.

Health Effects

In testimony to a U.S. Senate Appropriations Committee on the safety of toys, Kyran Quinlan, representing the American Academy of Paediatric said that 'the injuries caused by these magnets are especially pernicious because they are not immediately evident' (Quinlan 2007:2). Parents and caregivers typically describe children as initially presenting with non-specific symptoms such as a stomach ache or gastro. Oesterich (2009:144), in a worldwide study of multiple magnet ingestion, described these initial symptoms as '…often mild, resembling 'flulike illness, nausea, vomiting, cramps, or abdominal pain'. Similarly, a U.S. Centre for Disease Control Report (CDC 2006b) likewise notes that 'the initial signs and symptoms of injury can be mild and non-specific, leading to a delay in diagnosis and even greater injury'. A worldwide study by Oesterich (2009), cited in Swaminathan et al (2010: 5) observed 'Considerable delay before seeking medical assistance was frequent, with additional delays before obtaining radiographs or ultrasound imaging'.

The U.S. Consumer Product Safety Commission (USCPSC 2012:22) explains how these delays, when coupled with disclosure issues, can have serious consequences for children:

> Accurate and timely diagnoses also are complicated by the fact that children and teens may not attribute their gastrointestinal symptoms to prior ingestion of magnets and they may be unable or unwilling to communicate to parents, caregivers, or medical personnel that they have ingested magnets. Accordingly, the delay of surgical intervention due to the patient's presentation with non-specific symptoms and medical personnel's lack of awareness of the dangers posed by multiple magnet ingestion can exacerbate life-threatening internal injuries and has resulted in the need for a bowel transplant (USCPSC 2012: 22).

Certain children are particularly vulnerable, especially those with neurodevelopment disorders, as they are 'more likely to intentionally ingest the magnets either during normal hand to mouth behaviour or during a clinical episode of some sort (See Devenyi 2009: 92; CDC 2006b).

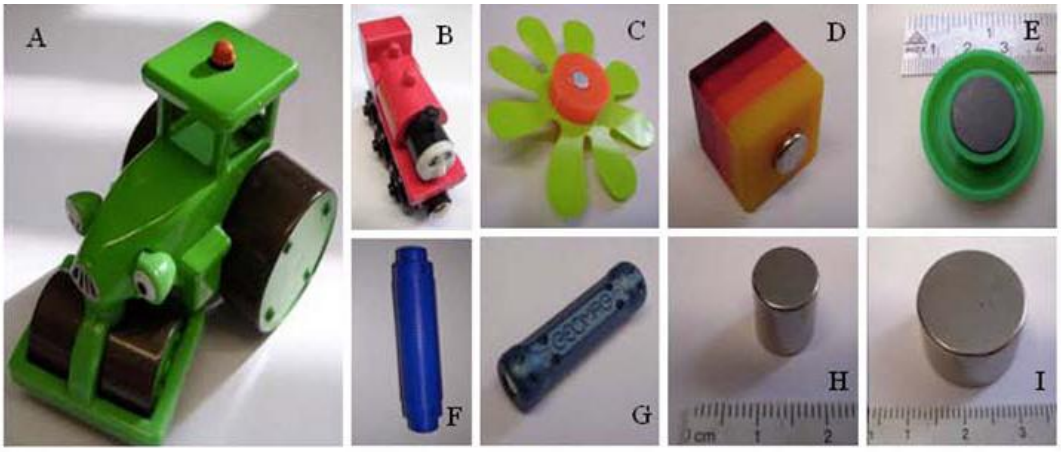
Children may also suffer longer-term effects from their injuries, as noted by the USCPSC (2012: 24):

> Complications after these abdominal surgeries include bleeding, infection, and ileus (temporary paralysis of gut motility). Adhesions (where bands of intra-abdominal scar tissue form that can interfere with gut movement and can cause obstruction) may occur as a short-term or long-term (years) complication, frequently resulting in bowel obstructions requiring additional surgeries, and thus, creating a cycle. In females, there also can be future fertility concerns related to abdominal scar tissue and adhesions. In cases where long segments of injured bowel have to be removed, digestive function of victims can be impaired permanently, resulting in mal-absorption, diarrhoea, cramping,

total parental nutritional feeding (and consequent frequent bouts of sepsis), need for a bowel transplant, and even death.

A separate, but important concern is the effect of magnetic toys and other items on paediatric patients with programmable shunt valves. A study by Zuzak (2009: 162) found that 'the pressure level of adjustable valves can be altered by magnetic toys present in the everyday life of paediatric patients'. Figure 5.6 shows some of the products identified by Zuzak (2009: 162) as containing magnets and although not all are 'toys' it does illustrate the wide range of items in which these magnets are embedded.

Figure 5.6: Magnets and Programmable Shunt Valves



A: Road roller (Lego Duplo); B: Skarloey (HIT Entertainment); C: Flower (kitchen magnet); D: Cube with magnet; E: Disc (kitchen magnet), F: Bornimag (GIGA iKids), G: Geomag, H: Super magnet small, I: Supermagnet big

Similarly, Anderson et al (2004) also note the malfunction of a programmable valve after exposure to a toy containing magnets. Australian study (Swaminathan et al 2010: 5) cites a finding by Oestreich (2009) that 'twelve of the 122 children in the study were known to be autistic, noting that this 'highlights both the propensity for children with disabilities to ingest foreign bodies, as well as challenges in obtaining a verbal history of the same'.

The following section presents a statistical snapshot of lead-related deaths, incidents and, injuries in the United States and magnet-related deaths, incidents and injuries in the United States and Australia. This is followed by case reports (medical accounts of victim suffering) and case vignettes (accounts of victim suffering) of children injured by lead and magnets in their toys.

Victims and Survivors of Magnets

Magnet-Related Deaths and Injuries: The United States

Table 5.2 shows a selected snapshot of incidents reported to the United States Consumer Commission (USCPSC) between 2007 and 2011, where children sustained injuries from a range of magnetic toys.

Table 5.2: Magnet-related Incidents and Injuries - United States

Toy	Incident and Injury Details
Building Set	Magnet dislodged from toy during play. Eight year old girl swallowed 16 magnets, suffered intestinal perforations - six were repaired, four inches of intestine removed.
Toy Blocks	Three year old boy swallowed toy blocks belonging to five year old sibling. Required surgery to repair damage to intestines.
Building Set	Five year old boy swallowed a steel ball that separated from a magnetic piece and was hospitalized for four days.
Building Set	Four year old boy swallowed steel ball from magnetic building set which had to be removed by endoscopy.
Building Set	Four year old boy ingested several magnetic toy pieces, sustaining serious internal injuries requiring multiple surgeries.
Unspecified	Three year old boy ingested magnets from an unspecified toy, causing intestinal perforations and the removal and re-attachment of two sections of his intestine
Building Set	Eight year old boy swallowed four magnets from a popular magnet toy which were surgically removed.
Magnetic Ball	Six year old boy was hospitalized for eight days after he swallowed two magnetic balls, causing intestinal perforation.
Building Set	Eleven year old boy swallowed magnets and plastic pieces that were surgically removed along with four inches of his large intestine.

Unspecified	Three year old boy swallowed several small magnets during play. Surgical removal, bowel perforation, hospitalized nine days.
Unspecified	Six year old boy swallowed metal ball which had to be surgically removed.
Building set	Three year old male stuck dislodged magnet in nose which had to be surgically removed
Building Set	Eight year old female swallowed thirty pieces of a 200 piece magnetic toy building set requiring surgical removal of magnets and suffering intestinal injuries
Building Set	Two year old female swallowed seven magnets that dislodged from a building set. Surgery to remove magnets, colostomy bag required after surgery
Building set	Three year old female swallowed six magnets from a building set, surgically removed from intestines, hospitalized for several days
Building set	Three year old female ingested magnetic triangle from building set, surgically removed, hospitalized for two nights
Refrigerator magnet	Three year old female swallowed eight small round magnets off the refrigerator door, Surgically removed from esophagus and stomach
Unspecified	Four year old boy swallowed three metal ball shaped magnets which were surgically removed
Unspecified	Nine year old boy swallowed two toy magnets whilst at school, surgically removed and damaged tissue repaired
Unspecified	Eighteen month old boy swallowed three magnetic balls that had to be surgically removed including nine inches of his intestine, the boy has ongoing medical issues
Unspecified	Eight year old male was hospitalized after swallowing magnets, required surgery for intestinal injuries

Source: USCPSC (2011a) NEISS data provided to the author

Magnet-Related Deaths and Injuries - Australia

The following summary of the state of the statistics in Australia was provided by the Australian Competition and Consumer Commission (ACCC 2013b, 2/2/2013), in response to an enquiry from the author. It reflects the state of statistics on magnet-related injuries worldwide and is reproduced in its entirety below (see pages 142-145):

> [Beginning of Quote] Product related injury data in Australia is not collected nationally. The data comes from a variety of sources and covers unclear geographic boundaries. Identification

and recording of information on specific products is uncertain; most cases of magnet ingestion do not adequately identify the type or brand name of magnet.

It is often difficult to separate out injury associated with specific products from other related or similar products – in this instance, cases of ingestion of magnets from magnet sets versus ingestion of other types of magnets.

The proportion of households that have a product (in this case a set of the magnets), and the intensity of its use (how often it is used and how many people are exposed to it), is often unknown. This means that a comparison of injuries with number of users, and an associated calculation of the degree of 'risk,' is problematic.

Noting that Australian data is imperfect, the ACCC believes that the following information is of relevance:

- A 21 month old Queensland toddler died in 2011 after ingesting multiple small high powered magnets. The ingestion of the magnets had not been witnessed by the father or any other person, and so medical treatment was not sought.

In addition to this death, the ACCC is aware of a number of serious injuries involving small high powered magnets from magnet sets—including via the media, via state and territory fair trading agencies and via a recent national survey of surgeons by the Queensland Injury Surveillance Unit.

The cases below are, for the most part, cases specifically identified by paediatric surgeons. Details of surgical cases performed by adult surgeons or by specialist surgeons (ear, nose and throat; or respiratory) are not known. In addition, non-surgical cases where a gastroenterologist has removed magnets by endoscope are not known.

A summary of severe incidents identified to date in Australia, is summarised in Table 5.3:

Table 5.3: Magnet-related Incidents - Australia

2012 Cases
• 15 year old Victorian girl swallowed 3 small spherical magnets when imitating a fake tongue piercing. This caused a fistula in the duodenum and required surgery.
• 14 year old Queensland girl swallowed 4 small spherical magnets imitating a fake tongue piercing. The magnets became stuck between the stomach and the duodenum, necessitating a laparotomy.
• 13 year old Victorian girl ingested 3 small spherical magnets when imitating a fake tongue piercing. This perforated the duodenum and bowel. Laparoscopic surgery was required.
• 12 year old New South Wales girl was hospitalised in 2012 for surgical removal of magnets reported as Buckyballs. The magnets were swallowed while mimicking facial piercing.
• 12 year old New South Wales boy swallowed 3 spherical magnets with an 8 mm diameter. This perforated the colon and jejunum. Laparoscopic surgery was required.
• 7 year old New South Wales boy who was hospitalised in 2012 for surgical removal of magnets, undergoing 5 hours of surgery.
• 7 year old New South Wales boy swallowed 8 small spherical magnets while playing. This perforated the duodenum and appendix, leading to surgery.
• 3 year old Queensland girl swallowed 21 small spherical magnets. Treating the injuries required re-sectioning the bowel and a week in hospital.
• 3 year old New South Wales boy swallowed 30 small spherical magnets which were stored on a fridge door. This ruptured the bowel and caused peritonitis. Treatment involved re-sectioning the bowel.
• 2 year old Western Australian boy underwent emergency surgery in 2012 to remove 27 magnets from his stomach.
• 18 month old New South Wales boy swallowed approximately 20 magnets described as BuckyBalls. Initially misdiagnosed by a GP and the local hospital, the boy required a laparotomy.
2011 Cases
• 10 year old New South Wales boy swallowed 6 small spherical magnets. This caused multiple small bowel perforations and infection.
• 8 year old New South Wales boy swallowed 2 small spherical magnets. Surgery was required to repair the fistula between the small bowel and sigmoid colon.
• 3 year old New South Wales girl was hospitalised in 2011 for surgical removal of magnets reported as being NeoCubes.
• 18 month old Tasmanian girl was hospitalised for surgical removal of five small, spherical magnets suspected to be Buckyballs.

Source: ACCC 2013b, Email to author 1/2/2013

Table 5.4: Identified Australian Cases - 2011 and 2012:

Age of child	Location	Number of Magnets Swallowed
21 months	Brisbane, QLD	12
15 years	VIC	3
14 years	QLD	4
13 years	VIC	3
12 years	Greta, NSW	5
12 years	NSW	3
7 years	Mona Vale, NSW	6
7 years	NSW	8
3 years	QLD	21
3 years	NSW	30
2 years	Perth, WA	27
18 months	NSW	20
10 years	NSW	6
8 years	NSW	2
3 years	Central Coast, NSW	-
18 months	Tasmania	5

Source: ACCC 2013b, Email to author 1/2/2013

As noted by the ACCC 'the severe cases (one death and 15 surgical cases) broadly conform to the US pattern of injury:

- Divided between children aged 3 and under and those aged 7 and above;
- All cases where large numbers of magnets were ingested involved a young child (aged 3 years or under); and all cases involving a young child involved ingesting five or more magnets;
- The maximum number of magnets ingested by a single child was thirty

Source: ACCC 2013(b), Email to the author 2/2/2013.[End quote]

Case Report

The following case report reflects the type of report that is widely available in published medical journals, some of which date back several decades. It provides a graphic image of the circumstances surrounding ingestion and the injuries sustained by a five year old boy who ingested multiple magnets in 2006.

Box 5.1: Case Report 1 - Magnets

Case Report 1 **Boy Aged 5 years 1 month - 2006**
Case 3: On May 5, 2006, while using his teeth to separate magnetic pieces from a toy building set, a boy aged 5 years, 1 month, inadvertently swallowed one of the pieces. The boy's mother called his paediatrician, who advised her to take him to a local hospital. Radiographs revealed magnetic pieces in the child's stomach. Doctors advised the mother that the pieces would probably pass normally but that she should monitor the child's stool for up to 5 days. Two days later, the boy told his mother that he had swallowed another toy, a small metal ball; this did not concern her. By May 18, the mother reported that the magnet and metal ball had not passed; the child's paediatrician ordered another radiograph. Imaging center staff members reported finding two metal objects stuck together farther along the intestines and advised that they would probably pass naturally. However, on May 24, the paediatrician ordered another radiograph, which showed that the objects had not moved. The next day, the mother informed the paediatrician that she had learned of a fatality that occurred after ingestion of magnets. After consultation with specialists on May 26, an endoscopy was scheduled for May 31. On May 30, the boy began vomiting and was taken to the specialist's hospital and admitted. During endoscopy on May 31, the toy pieces could not be removed, and surgery was required. The surgeon removed two disc-shaped magnets, each 10mm in diameter, from the boy's large intestine and a steel ball, also 10mm in diameter, from the small intestine and resected the affected bowel.
Source: Morbidity and Mortality Weekly, 55(48): 1297-1298.

Case Vignettes

The following case vignettes reflect the suffering of victims:

Box 5.2: Case Vignette - Magnets 1

Girl Aged 7 Years : 2006
In February 2006, attorney Gordon Tabor alerted Mattel that his 7-year-old client had to undergo emergency surgery after swallowing magnets from a Polly Pocket toy. The magnets connected inside her intestines, creating a deadly obstruction. It took Mattel a year and a half to alert parents and issue of recall of 18.2 million Polly Pocket, Doggie Day Care, Batman, Barbie, and One Piece toys containing magnets that can connect across intestines and "rip through a child's bowels like a gunshot." Before finally recalling these toys in August of 2007, Mattel executives met numerous times to discuss the toys in meetings that revealed graphic evidence of magnets ripping up children's intestines, injuring dozens. American Association of Justice at: http://www.justice.org/cps/rde/justice/hs.xsl/5027.htm

Box 5.3: Case Vignette 2 - Magnets

Boy Aged 4 Years - 2007
In December 2007, Braden Eberle, 4, swallowed two tiny magnets from his older brother's construction kit on two successive days last spring. After telling his mother, her first reaction was that the magnet would pass through her son's system without a problem. "People swallow pennies of the same size every day," said Jill Eberle. "They're smaller than an eraser." But by the next morning, with Braden still in pain, the family's doctor told them to go straight to the emergency room where an X-ray revealed the two magnets were stuck together. "They were attracted to each other with the wall of each segment they were in stuck together," said Dr Sanjeev Dutta, the paediatric surgeon at Good Samaritan Hospital who would operate on Braden later that day. "Because they were so powerful, the wall of the intestine was getting squeezed, squeezed, squeezed, and then it just necrosed, or kind of rotted away, and created a hole between the two" Dr Dutta said. Dutta wants to make sure that parents are aware of this risk. "It seems like such a benign thing," he said. "[But] these things look like candy to a 3-year-old Source: Gardner, HealthDay Reporter, HealingWell.com, (2008) http://news.healingwell.com/index.php?p=news1&id=612352

Section Summary

This section has described what rare earth magnets are and how they are made, in the wider economic context of a race for rare earth elements around the world. It has also explored how the process of extraction and processing of rare earths generates significant upstream harms well before processing into magnets and incorporation into children's toys. Not only are there significant health consequences for the children who swallowed these magnets, but whether free in the environment or embedded in toys, these types of magnets are problematic at disposal.

The unique characteristics of these magnets have been described, with special emphasis on their powerful flux [magnetic pull] and in particular their risk as an intestinal perforation, rather than ingestion hazard especially for small children (but also for teens and potentially for pets). Incorporating these components into children's toys and trinkets may be lawful, but the injuries they inflict, should they dislodge and two or more are swallowed, are truly awful. Toy companies continue to produce toys containing these magnets in full knowledge of the harms they can cause. They continue to take this risk, in the belief that stronger methods of attaching the magnets will insure them against further tragedies. The following section addresses the second toy hazard, the trouble with lead.

The Trouble with Lead

Introduction

At the time of the global recalls in 2007, the unrestricted presence of heavy metals in toys and other products not only posed a hazard to children worldwide, but also to foreign factory workers and to the local natural environments in which leaded paint was disposed or to which contaminated wastewater was released. Lead has been described by the American Association for Justice (2009:1) as 'the second most deadly household toxin in existence after arsenic'. Like many other chemicals, lead also has 'significant hazards associated with upstream processes like mining … and end of life disposal' (Healthystuff.org, Undated). Children chew, suck and bite their toys during key stages of development (think about teething) and their saliva functions as a pathway for toxins in their bodies.

What is Lead?

Lead is a bluish-grey metal that occurs naturally in the environment. Lead is produced from burning fossil fuels, mining and manufacturing (Agency for Toxic Substances and Disease Registry 2011). It ranks among the strong environmental toxins and is bio-accumulative. Although typically described as odourless and tasteless, it has also on occasion been described as 'sweet-tasting', which may make it more attractive for children.

One of the hallmarks of substances like heavy metals is their mobility (in their own right). As we saw in 2007, they can also move around the world through international trade. This concept of mobility was reflected in a Thought starter prepared for the Intergovernmental Forum on Chemical Safety (IFCS) by Rosenthal and Wiser (2008: 1) asking:

Whether the mobility of lead and cadmium through international trade may warrant co-ordinated international action to protect human health and the environment?

Where Does Lead Come From?

Lead comes from both industrial and domestic sources. Industrial sources include 'mining and metal manufacturing; 'the mining and extraction (removal from the ground or sea) of oil gas and coal; and 'factories that burn fossil fuels or waste products (NPI Fact Sheet 2009: 1-2 2). Lead is sometimes used as an admixture in products like car batteries and also sometimes in paints, glazes and certain ceramics.

The Australian Competition and Consumer Commission (ACCC 2010a: 1) identifies the most common sources of lead poisoning in children as 'lead-based paints, contaminated air, water and soil, cosmetics and toys'. In some countries (including some provinces in China) leaded gasoline remains a source. In addition to lead, those elements known to be most dangerous to children playing with toys and finger paints include antimony, arsenic, barium, cadmium, chromium, mercury and selenium (ACCC 2010a: 1).

Other everyday sources include:

- Drinking water or breathing air that contains lead,
- Eating fish or shellfish from polluted waters as lead builds up in their tissues,
- Swallowing or inhaling house dust that contains lead,
- Playing in soil that contains lead,
- In proximity to hobbies in which lead is used (e.g. stained glass work),

- Coming into contact with 'lead-based' paint (e.g. in older homes),
- Working in a job where lead is produced or used,(e.g. lead smelter, mine),
- Living near industrial areas where fossil fuels are burnt (Adapted from NPI Fact Sheet 2009:2),

Additions to this list might include children already living with lead in their daily lives, such as:

- Children working in or exposed to e-waste recycling, especially in developing countries; and
- Children living with legacy wastes from past industrial activities in both developed and developing countries

Exposure to lead is not confined to children in the developing world, although they may be disproportionately affected. Children in Australia, for instance, are also exposed to lead, whether this is legacy wastes from past mining activities (e.g., Broken Hill New South Wales); children with elevated blood lead levels from current mining activities (Port Kembla, South Australia and Mount Isa, Northern Territory) or recent spills such as in the Port of Esperance Western Australia. For children exposed to lead in their daily lives (in both developed and developing worlds) lead in their toys represents a further layer of poison.

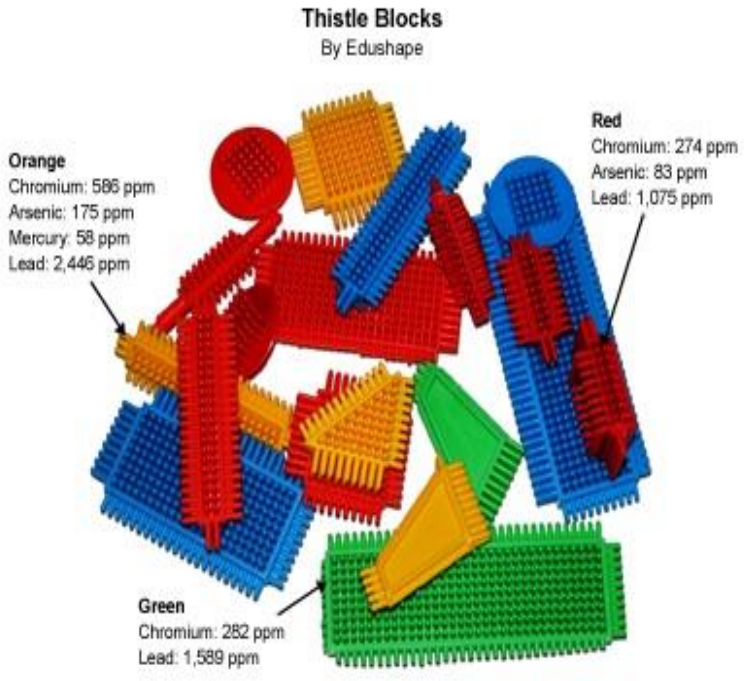
Toys Containing Lead

In 2007, lead re-emerged as a threat in a range of children's products including toys, infant products, PVC items and jewellery. Excessive levels of lead were found in the painted surfaces of a range of children's wooden and metal toys, in vinyl baby bibs and lunch boxes, in face painting kits, in the logos on children's backpacks, in lipsticks,

Halloween toys and in promotional toys given away with footwear and fast food meals as well as in children's costume jewellery. In Australia, along with barium and cadmium, lead was found in fake teeth, masks, jewellery and painted wooden blocks given away in promotional 'show bags' at showgrounds in the cities of Brisbane and Perth; in vending machine candy in the United States and leaching from the surface of poly-vinyl chloride (PVC) toys in India (See Kumar & Pastore 2007).

In 2007, according to a RAPEX Report (European Communities 2008: 13) 'almost 2 million toys were pulled off store shelves in Europe because of excessive levels of lead in their paint'. Figure 5.8 provides a very good illustration of the range of heavy metals that might be found in a single toy, also making the links between leaded paint and primary colours:

Figure 5.7: Range of Heavy Metals in a Single Toy



Lead was also found in children's metal and pearl-like jewellery (Weidenhamer and Clements 2006) and these authors proposed a direct link between e-waste and children's lead-contaminated jewellery (see pilot case example Chapter 3). In 2010 in particular there was a spike of recalls for of recalls for jewellery contaminated with cadmium. At the time it was suggested that because lead was now under closer regulatory scrutiny, some manufacturers may be substituting cadmium for lead.

For instance, over a three year period between 2004 and 2007, the USCPSC recalled more than 150 million pieces of lead-laden children's jewellery. (Hitchcock and Merzwinski 2008:2). In 2007 alone, the US Consumer Product Commission issued 18 recalls, covering more than 6.7 million pieces of jewellery for children and teenagers containing dangerous levels of lead (Fairclough 2007). This problem was not confined to China; in Australia in 2008, Makit and Bakit jewellery sets made in India were recalled because the clasp on the metal bracelet contained impermissible levels of lead (ACCC 2008a).

PVC toys posed a special risk, representing a case of double-exposure for children; on the one hand containing phthalates (thall-eights) chemicals used to make the plastic soft, and on the other, the heavy metals lead and cadmium, where these are used as stabilisers. The trouble with PVC is that it 'releases its metal stabilisers as dust on its surface, which may contain lead or cadmium (Kumar & Pastore 2007: 817).

As a material, PVC has been dubbed by global activist organisations like Greenpeace International (2003) as 'the poison plastic' because of toxic emissions throughout its lifecycle from origin to disposal (and beyond). Scholars from Toxics Link in India (Kumar and Pastore 2007:818) say that the 'chewing, licking and swallowing behaviour of children is a common source of lead and cadmium exposure where heavy metals are also added to polyvinyl chloride (PVC) as stabilisers

and as colouring agents in the form of organo-metallic compounds. The These authors also describe a largely uncontrolled, big grey market in cheap plastic toys containing phthalates and heavy metals like lead and cadmium. In the west, cheap unbranded toys and jewellery typically sold through dollar discounts stores remain an enduring threat to children.

In an article in *The New York Times*, Lipton cites 'industry officials' as saying that lead ends up in polyvinyl chloride (PVC) from one of three primary sources;

- It is sometimes added as an inexpensive stabiliser,
- It can come from the pigments used to add colour, or
- It can come from recycled vinyl, which may have had lead in it from its earlier use

Sometimes much was made of the fact that lead was only found on components of toys, such as the knobs of spinning tops and pails, on the olive-green top of 'Sarge' die-cast cars, on the painted decal of a plastic drum, or on the yellow headlights of a train car and miniature ladder. However, this does not diminish the hazard, because these are the very parts of a toy a child is most likely to mouth and it is now well understood that little bits of lead over time add up.

Why Use Lead Paint?

In September 2007, Barboza, in *The New York Times,* posed the question that was everyone's mind, Why Lead in Toy Paint? This became a widely debated question in the public domain, with most critics speculating that the reasons were related to ease of application, making the paint brighter, and cost factors. For instance, a businessman told a journalist from *The Sunday Times* (Sheridan 10/8/2007).

> Lead paint is used because it 'gives toys a brighter, glossier look and is almost half the price of safe paint
>
> Red and orange are give-away colours and they are also the ones which most often fail the safety tests

As Barboza reports in *The New York Times*, others attributed the use of lead paint to cost-efficiencies:

> The simplest answer, experts and toy companies in China say is price. Paint with higher levels of lead often sells for a third of the cost of paint with low levels. So Chinese factory owners, trying to eke out profits in an intensely competitive and poorly regulated market, sometimes cut corners and use the cheaper leaded paint (Barboza, *the New York times*, 11/9/2007).

This was a widely debated question in the public domain, with most critics speculating that the reasons were related to ease of application, making the paint brighter, and cost factors. For instance, in New Zealand, the *Dominion Post* (2007) reported that:

> The use of lead paint on toys is heavily restricted in China as well as elsewhere, but it is cheaper than the alternatives and is reportedly favoured by some Chinese manufacturers because it is easier to apply and dry, and offers richer colours' (Dominion Post, 20/8/2007).

The impression was that China had lower standards, but this was not necessarily the case, as pointed out by Barboza, in *The New York Times*, 11/9/2007:

> On the books China's paint standards are stricter than those in the United States, requiring that paint intended for household or consumer-product use contain no more than 90 parts of lead per million (by comparison American regulations in 2007 allowed up to 600 parts per million)

Health Effects of Lead

Lead is a known neurotoxin [damaging to nerve tissues] and a nephrotoxin [poisonous to the kidneys] (Schettler et al 2000). It is associated with negative outcomes in children including impaired cognitive, motor, behavioural and physical abilities (CDC 2007; Binns et al 2007: 1285).). Some scholars argue that 'even exposure to low doses of lead can cause IQ deficits, attention-deficit hyperactivity disorder and deficits in vocabulary, fine motor skills, reaction time and hand-eye co-ordination' (Hitchcock and Mierzwinski 2008:9). This is consistent with Ted Schettler's written testimony to a U.S. Senate Committee on Environment and Public Works (Schettler 2010:2) that:

> lead exposures that have minimal or no discernible impacts in adults can permanently alter brain development and function in a child. There is substantial and growing evidence showing that environmental exposures during development can increase the risk of chronic, degenerative diseases much later in life

When it comes to heavy metals, children are not little adults; they have 'a higher metabolic rate and greater surface area to weight ratio than adults, immaturity of organ systems, and rapid growth and development of organs and tissue such as bone and brain' (Becker, Edwards and Massey 2010:7986). 'Children's exposure also differs from that of adults because they 'drink more fluids, eat more food, and breathe more air per kilogram of body weight [and their] hand to mouth behaviour creates a pathway for toxic chemicals in toys and other products to enter the body' (Becker et al 2010:7986).

Lead is an ever-present danger for many children in the developing world, where the World Health Organisation (WHO) estimates that 15-18 million children are suffering from permanent brain damage owing to lead poisoning (cited in Kumar 2006: 6).

In the developed world, lead is an ever present danger for children living in old homes with flaking lead paint. Children in certain ethnic groups are exposed to lead in locally made pottery (e.g. Mexican children) (See Weinhold 2004) and through the use of 'eye cosmetics and folk remedies such as "tiro" (in Nigeria), surma and "kajal" (in Asia) and "Kohl" (in the Middle East) (See Morbidity and Mortalilty Weekly 2012:574).

The effect of low-dose exposure to lead over time (e.g. chewing on a Thomas™ the tank engine toy for 3 years) and the intergenerational effects of exposure to heavy metals like lead have been downplayed, as have the effects of cadmium (an emerging threat in children's jewellery):

> Cadmium is found in breast milk and a small amount will enter the infant's body through breastfeeding. The amount of cadmium that can pass to the infant depends on how much exposure the mother may have had' (ATSDR 2012:6).

Toys and other products intended specifically for children are [only] one category of a much larger set of consumer products that expose infants and children to toxic chemicals [on a daily basis] such as personal care products, furniture and food containers (Becker et al 2010:7986). These multiple low-dose daily exposures are one reason why what is in a toy matters.

Children are more vulnerable to lead exposure than adults 'because of hand-to-mouth behaviour, their growing bodies absorb more lead and their developing brains and nervous systems are more sensitive to the damaging effects of lead' (PIRG 2008:9).

The insidiousness of lead is also reflected in the way in which it manifests in subtle behavioural changes:

> Neuro-developmental disabilities are not easily defined. They do not lend themselves to simple diagnostic tests like blood sugar in diabetes or the EEG in epilepsy. They are refined in low clinical or behavioural terms and often present as a range or spectrum of behaviours (Schettler et al 2000: xi).

Those groups most vulnerable to lead include boys and girls particularly during the first two years of life, pregnant women and the developing foetus:

> Pregnant women are also at risk as lead can be passed onto the unborn child through the placenta. Exposure of a foetus to lead levels is associated with developmental effects during the first two years of life. These can include effects on memory, learning and problem solving (Department of the Environment and Heritage (2009) website at: http://www.environment.gov.au/atmosphere/airquality/publications/health.html)

Children who have a condition known as pica (the propensity to eat non-food items) are especially vulnerable to lead.

The injuries caused by lead are insidious because they may not be immediately evident and by the time symptoms do emerge, the effects can be irreversible. In addition, the time lag between exposure and presenting symptoms makes establishing the links between cause and effect almost impossible to prove, especially if there are multiple sources of lead in a child's environment. Lead exposure produces different effects at different levels in the blood as shown in Table 5.5.

Table 5.5: Different Lead Blood Levels – Different Effects

Micrograms per decilitre	Behavioural Changes/Effects
10-25	• suppression of appetite with resulting weight loss • sleep disturbance • hyperactivity • reductions in intelligence and short-term memory • irritability • shortened attention span
30-50	• requiring special education, • dropping out of school, and • reading disability as a young adult
Higher concentrations	• irreversible mental retardation and seizures, • intermittent abdominal pain or constipation, • coma and • even death

Source: Tabulated from Australian Department of Environment, Water Health (DEWHA) and the Arts (now Department of Sustainability, Environment, Water, Populations and Communities (DSEWPC 2009).

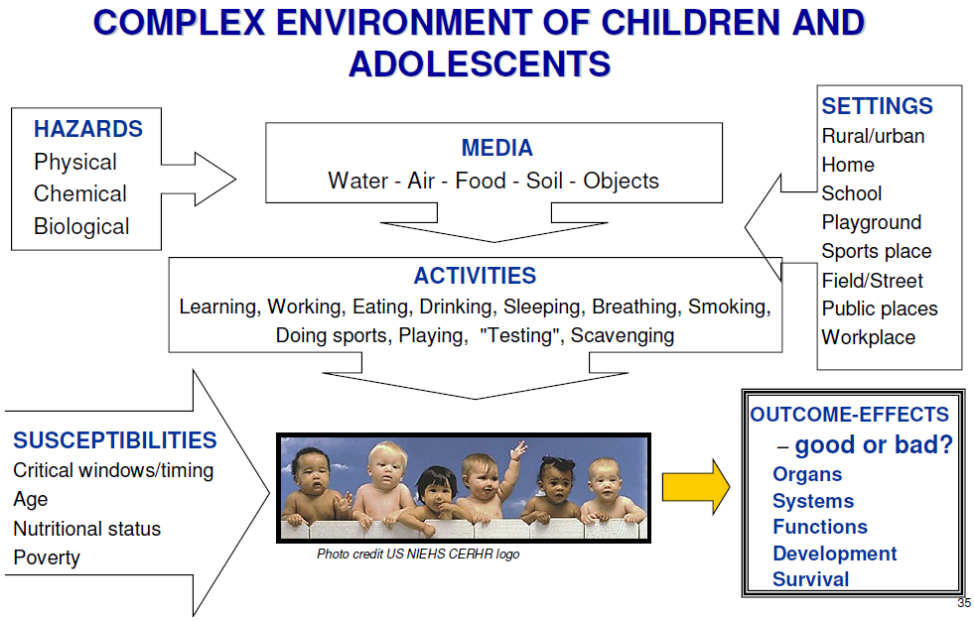
Scientific studies indicate that in terms of the central nervous system, there is no safe level of lead. Research continues to reflect reducing lead exposure thresholds, based on growing evidence 'that children's physical and mental development can be affected at blood lead levels below 10 ug/dl' (Centres for Disease Control 2007 at http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5608a1.htm).

Likewise, Hitchcock and Mierzwinski (2008:9) note that 'even exposure to low doses of lead can cause IQ deficits, attention-deficit hyperactivity disorder and deficits in vocabulary, fine motor skills, reaction time and hand-eye co-ordination'. As Kumar and Pastore (2007:6) observe 'when considering the impact of lead on the body, it is important to remember that 'what constituted "safe" yesterday is no longer "safe" today and what is "safe" today may not be "safe" tomorrow (Kumar and Pastor 2006: 6).

Pathways of Exposure

Children ingest lead-laden dust through normal hand to mouth behaviours by simply placing their hand or an object in their mouth [or] when handling food during eating' (See American Academy of Paediatrics 2005b: 1041. This has serious implications, especially for the chewing, licking and biting of lead-contaminated toys over time, especially during key developmental stages such as teething. The following diagram (Figure 5.7) from a 2008 World Health Organisation presentation summarises the multiple sources of lead and critical windows of harm for children and adolescents.

Figure 5.8: Multiple Sources of Lead for Children



Source: World Health Organisation Presentation (2008: Slide 35).

Australia's national regulator for consumer products, the Australian Competition and Consumer Commission (ACCC 2010a: 1) notes that 'the most common sources of lead poisoning in children are lead-based paints, contaminated air, water, toys and cosmetics (ACCC 2010a: 1). The Centers for Disease Control and Prevention (CDC 1985: 1) notes that 'childhood lead poisoning is one of the most common pediatric health problems in the United States today, and it is entirely

preventable'. Target organs for lead include the bones, brain, blood, kidneys and thyroid gland (ATSDR 2007: 8).

'Lead can be brought home via dust on hands or clothes when it is used in the place where you work' (ATSDR 2007:9). Those workers who sprayed the leaded toys may have redistributed lead particles from paint on their clothes on return to corporate dormitories (where they typically live) or in some cases to their own homes. The washing of clothes in the family washing machine is also known to distribute lead particles. Heavy metals like lead (and cadmium) can also be present in air (dust), water (for drinking and sediments in rivers), soil (contaminated) and in the food chain (green leafy vegetables; drinking water; bottled water).

Exposure to lead has been liked to lung, stomach and bladder cancer. The part of the body most sensitive to lead exposure is the central nervous system, especially in children. In pregnant women exposure to high levels of lead has been linked to miscarriage, premature births and smaller babies. Exposure to high levels of lead in the womb can cause decreased mental ability (IQ), learning difficulties and reduced growth (See ATSDR 2007: 1)

Insidiousness of Lead

Schettler et al (2000) in a publication titled *In Harm's Way* notes that lead is an invisible and insidious harm that relies on early detection for protection. Other scholars suggest that more studies are required on whether there is a relationship between heavy metals like chromium, cadmium and autism in children (See Yorbik, Kurt, Hasimi and Ozturk (2010). Other studies have also explored a potential link between high levels of lead in the body and crime (Nevin 2007; Stretesky and Lynch 2001; Needleman et al 2002).

In the midst of the lead-related recalls for children's toys in 2007, Christopher Zinn a spokesman for Australian consumer watchdog *Choice* summed up the insidious nature of lead in comments to a journalist:

> Lead is not a thing you can detect just by looking at it, in the way you might reject something that looks shonky … you have to rely on an authority and its system of checks and balances (Zinn, quoted in Shtargot, *The Age*, Melbourne, Australia 3/8/2007).

Once lead enters the body, it travels through the bloodstream and is stored, mainly in the bones, where it can remain for a lifetime (AAP 2005a). It travels in the blood to the 'soft tissues' and organs (liver, kidneys, lungs, brain, spleen, muscles, heart) and after several weeks most of it moves into the bones and teeth, with approximately 73% of the lead in children's bodies being stored in their bones (ATSDR Public Health Statement Lead 2007: 6).

Some of the lead can stay in the body for decades, however some can leave the bones and re-enter blood and organs during after a bone is broken, during advancing age, periods of breast-feeding and during pregnancy. In pregnant women high levels of exposure to lead may cause miscarriage and high level exposure in men can damage the organs responsible for sperm production (ATSDR Public Health Statement Lead 2007:6).

These are concerns not only for children exposed to lead-contaminated toys, but also for foreign workers exposed to lead paint in the supply chains that made these particular toys. A little bit of lead on a children's toy might seem innocuous but that depends on what stage of development the child is at, over what period of time a child chewed on the toy (e.g. some of these toys were on the market for up to five years)

The issues in relation to lead in toys and jewellery were two-fold: lead by weight (e.g. as in jewellery items) and accessible lead (e.g. the amount of lead that can potentially migrate from a product during use). For instance, if swallowed, a metal charm or trinket can (and has already) killed a child, whereas paint on the surface of a toy is much more insidious, migrating from the product through repeated chewing, biting or licking of the surface of the toy over time. According to the American Academy of Paediatrics (2005b: 1036), 'Evidence continues to accrue that commonly encountered blood lead concentrations, even those less than 10ug/dl may impair cognition and there is no threshold yet identified for this effect .

Much was made of declining lead thresholds as a result of taking the lead out of petrol (although some developing countries still have leaded petrol), but this denies the fact that millions of children are *living with lead* as part of their daily lives in both developing and developed countries, albeit with differing levels of protection and advocacy. As Kumar and Pastore (2007) noted in relation to lead thresholds in a study of India's toxic toys, 'it is important to understand that what constituted "safe" yesterday is no longer "safe" today and what is "safe" today may not be "safe" tomorrow. As we gather more knowledge about the trouble with lead, the thresholds at which it is considered harmful to human health (in particular) continue to trend downwards.

Where is the Lead Now?

In December 2008, US consumer advocacy group, Healthytoys.org found lead was still showing up in 20% of the 1,500 toys they tested. Key take-home messages at the time were:

> **Lead is still in toys –** lead is still turning up in children's toys and trinkets
>
> **It's not just lead** – Cadmium, mercury, arsenic and bromine were also found in children's toys

Lead in jewellery – jewellery remains the most contaminated product category tested. It is five times more likely to contain lead above the federal threshold than other products

It's not just China - China is not the only culprit – 21% of toys from China and 16% of those from all other countries had detectable levels of lead

PVC is still an issue - toys made from PVC are still problematic viven the human health and environmental hazards associated with its manufacture, consumption and disposal

The good news – 324 [of the approximately 1500 toys tested] contained no chemicals of concern (Adatped from Healthytoys.org 2008: Full version Available at http://www.preventharm.org/Content/117.php).

Victims and Survivors of Lead in toys

The following statistical snapshot selected from data provided by the USCPSC, provides examples of incidents reported to the agency by consumers who believed their children had been affected by lead in toys, many of whom had recorded elevated blood lead levels:

Lead-Related Deaths and Injuries – United States

Table 5.6: Statistical Snapshot - Lead-related Injuries - United States

Product	Narrative
Wooden Blocks	Consumer believes son has delayed speech and scored 15 on lead test because of lead-containing wooden blocks he chewed on.
Toys	Boy playing with several toys that contain lead was diagnosed and confirmed with lead poisoning.
Toy Horse	Girl diagnosed with seizure disorder. Consumer reports child has toy horse recalled for high content of lead which may have caused seizures.
Toy Unknown	Child sick the day after he played with a new toy which had a warning label for lead. Consumer concerned that son's illness was related to lead.
Tank Train	Boy diagnosed with autism had extremely high lead levels caused by tank trains he constantly carried. He bathed with them, chewed them, mouthed them, and slept with them.
Train	Girl playing with train had routine check- up. Lead levels in her blood gone from 2 to 11. Consumer feels train is unsafe due to lead hazard. Product related to a recall.
Train	Boy suffered some degree of lead poisoning from a train under recall. Boy chewed and mouthed before recall was made.
Train	Boy showed signs of development delay and autism after lead poisoning from wooden train under recall.
Wooden Train	Boy showed high blood lead levels after playing with wooden train. Test results showed decrease in lead levels after stopped playing with toy.
Toy	Boy suffered possible lead poisoning. Two physicians from poison control said symptoms may relate to hard plastics toys that were recalled.
Train	Boy tested positive for elevated blood lead levels. Respondent said when trains were removed boy's lead level became normal.

Train	Boy developed lead poisoning after playing with toy train. The train has been placed in a recall program.
Toys	Girl was found to have high blood lead levels of 35.5 during routine physical check- up. She played for years with toys now recalled.
Toys	Girl tested for lead level and results came back with level of 18. Girl has variety of toys.
Toy Unknown	Lead poisoning of male who suffered over two hours of unconsciousness and severe brain damage.
Charms	Child tested positive for lead exposure. Parents came across marker set. Charm on marker tested positive for lead.
Play Medical Kit	Girl diagnosed with blood lead levels of 10 after playing with every day medical kit.
Figurines & House	Three children tested positive for high levels of lead. Consumer believes illness related to recalled figurines and house.
Wooden Train	Girl tested positive for elevated blood lead levels. Consumer tested wooden trains with home lead testing kit and green, blue and red colours tested positive for lead.
Handmade Mexican Toys	Two children checked and confirmed to have elevated lead blood levels after playing with handmade toys from Mexico.
Medallion from Spinning Toy	A boy swallowed a quarter sized metal medallion from a spinning toy. After surgery to remove toy lead was found in toy. Boy still has elevated levels of lead in his body, some short-term memory loss.
Train & attachable Car	Boy diagnosed with lead poisoning after playing with train and attachable car.
Toy Car	Consumer attributes lead poisoning to toy car.
Wooden Train	Lead test done on son and it came out 8.7 - very high. Consumer states child playing with wooden train and putting in mouth every day. She did not know of lead related recall.
Train	Boy has back pain & having problems going to the bathroom from exposure to lead from train. He is in hospital for possible kidney failure.
Wooden Train	Wooden trains contained lead causing boy to have high levels of lead in blood stream led to decrease in appetite, hyperactivity and speech delay.
Toy Car	Consumer's son's hands started itching after playing with remote controlled toy car. Box said toy contains lead.
Toy Cars	Child opened set of toy cars. After 5 minutes developed huge red rash over his hands and diagnosed with lead poisoning. He experienced breathing problems and nausea and died the following day (no death certificate provided).

USCPSC 2011(b) NEISS Incident and Injury Data

Case Reports

The following account is drawn from a peer reviewed medical journal and gives voice to the medical professionals who cared for children injured by lead in their toys.

Box 5.4: Case Report 1 - Lead

Case Report 1 **Four Year Old Boy - 2006**
In mid-February 2006, a boy aged 4 years with a previous medical history of microcephaly and developmental delay was brought to a hospital paediatric emergency department in Minneapolis, Minnesota, with a chief complaint of vomiting. Probable viral gastroenteritis was diagnosed, and the boy was administered ondansetron, an antiemetic; his parents were encouraged to increase his fluid intake, and he was released. He returned to the emergency department 2 days later with intractable vomiting, poor oral intake, "sore tummy," and listlessness. He was dehydrated and had normal blood sodium and elevated blood urea nitrogen levels. He received intravenous fluid replacement and was admitted to the hospital. The next day, about 10 hours after admission, the boy became agitated and combative and exhibited possible posturing. During transport to the radiology department, the boy suffered a respiratory arrest associated with seizure-type activity. He was resuscitated and placed on mechanical ventilation. He was administered a computer tomography (CT) scan of his head and of his chest and radiographs of his abdomen. The CT scan revealed diffuse cerebral oedema, and the boy underwent emergent ventriculostomy and decompressive craniotomy. A heart-shaped object was observed on his abdominal radiographs but it was thought to be a radiopaque probe on his body. When the radiographs were examined again, the object was recognised as a foreign body in his stomach, and testing for heavy metal levels was requested. The next day, a BLL of 180μg/dL was reported; cerebral blood flow studies indicated no flow to the brain, and the boy met clinical brain death criteria. On the fourth day of hospitalization, the child was removed from life support and died. Upon autopsy, a heart-shaped charm imprinted with "Reebok" was removed from the child's stomach. The mother recognized the object as a charm that came with a pair of shoes belonging to another child whose home her son had visited. The mother was not aware that her son had ingested the charm, and he had no history of ingesting non-food substances. Acid digestion testing performed on the ingested charm by the Minneapolis Public Health Department Laboratory using EPA protocol 3050§ determined that the charm consisted of 99.1% lead
Source: Centre of Disease Control (2006), "Death of a Child After Ingestion of a Metallic Charm-Minnesota, 2006', *Morbidity and Mortality Weekly Report* , 55(12):340-341

Case Vignette

The following case vignette is representative of accounts of suffering as a result of ingesting lead-contaminated jewellery.

Box 5.5 Case Vignette - Lead

Case Vignette 1 **Four Year Old Boy - 2006**
In February 2006, a four year old Minnesota boy died of lead poisoning after swallowing a heart-shaped charm from a bracelet, given away with the purchases of a pair of Reebok shoes. The news that the company had been fined US$1 million came as small comfort for the mother of Jarnell Brown. "I just don't really believe that my son is gone because of some shoes," said Juanna Graham, who said her life has been "hell" since Jarnell died on Feb. 22, 2006. Jarnell suffered vomiting, seizures and respiratory arrest before dying at Children's Hospital in Minneapolis. "I think that no child should have to suffer as much as my child did," said Graham, who now lives in St. Louis Park. "Jarnell was an intelligent, sweet child who could recite his own phone number and who taught his little brother to walk", she said.

Source: Lemagie, *The Star Tribune,* 18/3/2008

Conclusion

This chapter has provided an insight into the characteristics of lead and rare earth magnets, two of the most prolific hazards found in children's toys. It emphasises that lifecycle harms (including upstream emissions) need to be taken into account when assessing the true toxicity of any product (not just toys). In addition, there is the issue of both lead and magnets migrating from the toys (at consumption) as well those relating to disposal of both contaminated raw materials and returned toxic products in the countries of import. Of concern too are the current and intergenerational harms associated with incinerating and/or dumping toxic toys to landfill, as well as the ultimate links to greenhouse gas emissions and climate change. Making these links is important to understanding how to reduce pollution of the planet. Chapter 6 examines the 'global' supply chain and distribution network as the primary mode of transference for these products including what they contained and subsequently released.

Chapter 6: The 'Global' Supply Chain

Introduction

This chapter explores the dynamics and dimensions of the 'global' supply chain and distribution network. It begins with a review of the economic significance of the supply chain, including the risks associated with extended supply chains that span geographical and jurisdictional borders. The discussion then narrows to a focus on the toy supply chain, with a particular emphasis on the China supply chain where this refers to the manufacturing sector of toy companies extended supply chains, located in Guangdong province in China. This chapter challenges the focus on the 'global' in the supply chain, arguing instead for an equivalent focus on the 'local', one that recognises that the consequences of discrete supply chain activities (e.g. extraction, production, consumption, disposal) are experienced most acutely at the local level by different people, places and natural landscapes, where these activities are carried out.

The 'Global' Supply Chain

According to the World Economic Forum (WEF 2012: 3) 'global supply chains and transport networks form the backbone of the global economy, fuelling trade, consumption and economic growth'. Conversely supply chains can also be responsible for some of the most destructive upstream (extractive), midstream (manufacturing) and downstream (disposal) harms, directly impacting local people, places and natural landscapes in different locations across the world where discrete activities in the chain are located. What differentiates today's global supply chains is that 'companies are involved in managing supply chain risks across oceans and continents' (FM Global 2006: 9) and 'what is new is the speed and scale of the current wave of globalisation and the associated phenomena of outsourcing and off-shoring' (OECD 2007: 2).

In reflecting on the global financial crisis, a recent publication by global consultants Ernst and Young (2009: 10) describes the nature of today's supply chains as:

> increasingly global with business participants from developed and developing countries frequently separated by language, culture, geography, different time zones, physical distance and disparate systems using a variety of processes

This study also notes that one of the downsides of globalisation is 'the localisation of risks and harms as companies increasingly choose to transfer their manufacturing, labour and environmental costs abroad':

> Risk can present itself anywhere along the [off-shore] supply chain [and] as supply chains reach farther into remote areas of developing countries, new uncertainties arise regarding vendor selection and management, regulatory compliance, supply chain design and currency fluctuation, among others. These risks can be dramatically different and less anticipated than those associated with a local [onshore] supply chain (Ernst & Young 2009:12).

The World Economic Forum (WEF 2012: 4) rates the top five *external* risks to the supply chain as 'natural disasters, conflict and political unrest, sudden demand shocks, export/import restrictions and terrorism'. Others suggest that 'among the top challenges for companies are product recalls, supply chain controls, price pressures, a changing regulatory environment and corporate sustainability (See Horwitch 2008). There is also an argument that that risk is less important than resilience in the supply chain - that is the capacity for supply chain stakeholders to bounce back. But when things go wrong in a far-off component of the extended supply chain economic, political and cultural factors can complicate resolution of the issues.

Global trends that affect supply chains include market liberalisation, trade restructuring, the increasing power of retailers and consumer demand, among others. But by far the greatest threat to off-shore supply chains is disruption, as occurred in the toy supply chain in 2007. As Ernst & Young (2009: 12) reflect 'recent headlines regarding the quality of children's toys and infant formula are dramatic reminders that low-cost country sourcing, while it can lower an organisation's expenses, can be fraught with risk'. This is consistent with the views expressed by a risk consultant, commenting on outsourcing practices in the supply chain:

> The convoluted supply chain is probably one of the most underestimated and unrecognized risks in China. You really have to have experienced people on the ground that know what they're doing and know the language (General Manager for Greater China, Control Risks, quoted in Barboza, *The New York Times*, 5/1/2008).

Another argument is that the executive boardroom is out of touch with what is happening in their off-shore supply chains, an issue not widely discussed in relation to these recalls. For instance, a global survey of 500 executives conducted by the Economist Intelligence Unit (EIU 2009: 4) suggests an underlying factor for supply chain failure may be lack of understanding of supply chains at Board level:

> As many as 35% of respondents believe there is still a lack of understanding of supply-chain risk at a board level. Furthermore, nearly one-half feel that their company underestimates the potential impact of supply chain risk, and that it lacks expertise in knowing how to deal with it. Meanwhile, 40% believe their organisation lacks visibility across its entire supply chain The Economist Intelligence Unit 2009: 4).

A characteristic of many supply chains is that most have one or more off-shore components. Increasingly this is manufacturing, typically located in a developing economy, sometimes in a special economic zone, such as in these cases Guangdong, province, China. This distance makes chains difficult to manage and as Woo (2008: 7) notes this 'changes the dynamics of responsibility, accountability and liability':

> Some argue that corporations cannot be held 100 per cent accountable for slip-ups when hundreds of suppliers and thousands of employees are involved. Others say it is impossible for a company to test every batch of toys produced. The most a company can do is pick its suppliers carefully, strengthen communications, consistently implement rigorous inspections and threaten to cease business with companies that fail (Woo 2008: 7).

What makes this process even more 'complex' or challenging is not so much the structure of the chain; but rather establishing and maintaining robust 'relationships of trust' with supply chain partners across geographical, jurisdictional, economic, political, social and cultural borders, when arms-lengths governance is the order of the day. When something goes wrong in another jurisdiction, as it did in China (e.g. lead paint on toys; magnets dislodging from finished toys) then managing the political and economic relationships becomes the complex part.

The toy supply chain

The supply chains responsible for the toxic toys in this study placed a heavy reliance on relationships based on trust rather than enforcement, monitoring and verification. Mattel provides an example of the reciprocal nature of these relationships and the benefits and risks inherent in the chain:

> As a part of our efforts to cut costs, achieve better efficiencies and increase productivity and service quality, Mattel relies significantly on vendor and outsourcing relationships with third parties for services and systems including manufacturing, transportation, logistics and information technology. Any shortcoming of a Mattel vendor or outsourcer, particularly an issue affecting the quality of these services or systems, may be attributed by customers to Mattel, thus damaging Mattel's reputation, brand value and potentially affecting the results of operations. In addition, problems with transitioning these services and systems or operating failures with these vendors and outsourcers could cause delays in product sales, reduce efficiency of Mattel's operations, and significant capital investments could be required to remediate the problem (Mattel Inc 10K Filing 2010: 15).
>
> Mattel's business depends in large part on the success of its vendors and outsources, and Mattel's brands and reputation may be harmed by actions taken by third-parties that are outside Mattel's control. In addition, any material failure, inadequacy or interruption resulting from such vendors or outsourcings could harm Mattel's ability to effectively operate its business (Mattel 10K Filing 2010: 15).

The toy supply chain then consists of different sized companies in different localities, co-operating to bring toys to the global market place with each country playing its part by completing the activities assigned to it in the chain. In this way the supply chain functions not only as a conduit for the flow of goods but also a web of relationships between organisations, which in these instances, although contractual, appear to have been largely based on trust, that trust sometimes arising out of long-term partnerships between toy companies in the west and their wholly dedicated or preferred contract vendors in China.

Toy companies (and the safety of toys) are heavily reliant upon selected Chinese vendors manufacturing toys to prescribed standards and specifications and getting those toys to market as quickly as possible. Contract factories in China too are heavily reliant on toy companies, for all or a part of their business. There is a relationship between the size of the toy company (e.g. transnational, medium, small companies) and the size of the Chinese contract vendor (e.g. from mega vendors like Early Light Industrial to medium sized vendors like Lee Der Industrial to smaller vendors). Cancelling a contract is going to be more economically disastrous for the smaller operators (as was the case for Lee Der, for instance).

Size matters when it comes to toy safety. According to a European Commission Report (European Commission 2008: 3), 'the toy supply chain consists of different types of actors, each playing a distinct role when it comes to product safety; the way these various actors interact depends largely on their position in the chain and a defining characteristic of the way in which toys arrive on the European market is the amount of control that different stakeholders in the chain (eg OEMs, retailers, traders) exert on this chain' (see Dannwolf et al 2011). The rule of thumb is 'the smaller the player, the lower its buying power, the weaker its influence on the supply chain and consequently its ability to control product safety. Overall there were a range of stakeholders in the supply chain that bought these toys to market. (See Table 6.2).

Table 6.1 Key Stakeholders in the Toy Supply Chain

Stakeholder	Activities
Toy Companies (OEM's)	Design, develop and commission the manufacturing of toys, often in offshore locations.
Contract Vendors	Off-shore factories that manufacture toys on behalf of toy companies under contractual arrangements.
Raw Material Factories	Companies that supply Contract Vendors with raw materials like paint or paint pigment.
Sub-contractors	Companies that paint toys or components of toys for Chinese contract vendors.
Factory Workers	The hands that make the toys.
Marketing Agents	Agencies that promote and advertise the toys.
Export Logistics Agents	Agencies that transport, store, and distribute toys at point of export and import.
Import Logistics Agents	Transport warehouse and distribute toys at point of import.
Traders	Agents who scour international markets to purchase toys on behalf of big retailers (e.g. discount stores).
Wholesalers	Companies that import toys directly and distribute them through retail channels.
Retailers	Retailers (mega, specialist and small) that buy and sell the toys through physical (stores) or virtual (online) channels.
Consumers	Individuals and groups who purchase the toys.
End-users	Those who play with the toys, predominantly children.
Waste Companies	Those who arrange disposal of toys in domestic and commercial settings, as well as en masse disposal of contaminated toys.

Dannwolf et al (2011:11) explain in detail the level of control some of these key stakeholders have over product safety, paraphrased as follows:

- *Original Equipment Manufacturers (OEM's)* [like Mega Brands, Mattel, RC2, Schylling] – exert a larger amount of control over the manufacturing chain, including raw material supplier controls, supplier auditing, production monitoring and product testing
- *Retailers* [like Wal-Mart, Target, Toys R Us] – exert limited influence over product design, since except for companies that

develop their 'own-brand' toys, most retailers are not involved in toy development. Nevertheless, especially the bigger [mega retailers] often make significant efforts to control the safety of the products they buy including: supplier auditing, prototype testing, finished product testing, phase-out programs, and chemical control programs [Wal-Mart is an example here]. However they typically employ a lower number of safety-dedicated personnel and safety contact with vendors tends to be less frequent

- *Traders* [e.g. middlemen, brokers, buyers for example for big discount chains] - exert control over distribution, but no significant control over design or manufacturing. Combined with the often small size of these companies, and the fact that they might import many other types of products besides toys, means they are often not aware of all the relevant requirements and have less capacity to control product safety. They often source toys directly from Chinese manufacturers, choosing from a selection of toys in catalogues or at toy fairs

Source: Adapted from Dannwolf et al (2011:11)

A further group that could be added to this analysis are off-shore contractors (from mega to medium to small). Here too size, capacity and interaction with local networks have a bearing on what happens in practice on the ground

Mega retailers are a group that can exert enormous pressure on toy companies. For toy companies mega retailers are both competitors (e.g. produce own-brand products that compete with the products of toy companies) and customers (purchase stock from toy companies. The larger retailers dictate which brands they will buy, from which toy companies and the volumes they will stock on their shelves.

As an example of these dynamics, Mattel Inc (like many large toy companies), relies on its three largest *customers* [the mega retailers Wal-Mart, Toys R Us, and Target] for a fair proportion of its business. In 2006, 2007, 2008 and 2009, this represented 43%, 41%, 38%, and 40% respectively, of Mattel's worldwide consolidated net sales.

Table 6.2: Mattel's Three Largest Customers Proportion of Net Sales 2006-2009

Mega Retailer	2006 US$ Billion	2007 US$ Billion	2008 US$ Billion	2009 US$ Billion
Wal-Mart	1.1	1.1	1.1	1.0
Toys "R" Us	0.8	0.7	0.7	0.7
Target	0.5	0.6	0.5	0.5
Percent of worldwide consolidated Net sales	43%	41%	38%	40%

Source: Tabulated from Mattel Inc 10k Filing (2010)

This 'strain' (See Agnew) has been exacerbated in recent years as some of these mega retailers have rationalised their business interests, resulting in fewer retail channels for toys. In short, 'toy production and consumption occur in a global system characterised by convoluted supply chains with constant downward pressure on prices' (Becker, Edwards and Massey 2010: 7988). All of this has implications for product safety, as noted by USCPSC Commissioner, Sir Thomas Moore in a written statement to a U.S. Senate panel on the safety of toys:

> A contributing factor to product harm is the global market's reliance on competition [but] such competition does not and will not inevitably take the form of a rivalry to produce the safest product [nor will] the competition and voluntary action of today's businessmen... always suffice to safeguard the public interest (Moore 2007: 2).

Certain pressure points exist along the chain that are especially vulnerable to the types of opportunistic crimes typically associated with fierce competition (e.g. using less of something, using cheaper raw materials, using poorer quality materials, substituting a cheaper substance or material for a more expensive one, turning a blind eye to testing because it takes time or is expensive). The underlying drivers for this behaviour may lie in the characteristics of the toy industry itself in its preoccupation with speed to market from design and development to consumption; cyclical supply and demand, an emphasis on the 'lean' supply chain (among the desired elements being improved supplier performance and accountability, reduced logistics costs, reduced lead times), and the demand-driven nature of the network.

As Sheridan (2007) noted, in an article in *The Sunday Times,* in the United Kingdom, at the height of the recalls 'whilst business may be booming for big toy companies, the reverse may be true for Chinese contract factories who have had the "squeeze" put on them by the larger companies.

> A plastic toy sold to a British consumer for 99p typically costs 22p when it leaves the Chinese factory, making the margins attractive for everybody except the manufacturer. When the cost of raw materials is deducted, the factory may get as little as 7p to cover labour, overheads and profits. That is why Chinese manufacturers [may] be tempted to cut corners (Sheridan, *The Sunday Times,* 15/8/2007).

This competitive environment is likely to be more conducive to opportunistic crimes. For instance, to cut corners, a supplier might use less of something, a less expensive chemical, a different metal, or a toxic substance that mimics a non-toxic substance undetectable with current testing equipment. There exists what Savacool (2010: 3) describes as 'a clash between two separate ways of thinking, one concerned with human welfare, honesty and morality and the other with profit maximisation and ruthless efficiency, conditioned by shareholders and management directives'.

Profits depend on keeping production costs low (getting the best manufacturing deal in China), on retaining and building market share – in part determined by winning shelf-space at mega retailers - whilst at the same time competing with mega retailers own-brand toys. Examined in the context of competition and the practice of off-shore manufacturing, toy making appears to be quite a risky endeavour. The 'demand for low cost products creates pressures for companies to externalise environmental and social costs, resulting in unsafe working conditions, environmental pollution and a drive toward using the cheapest and often toxic materials' (Becker, Edwards and Massey 2010: 7988).

The China Supply Chain

The principle of lowest cost location has driven the practice of off-shoring, so that the majority of toys are made in a country geographically removed from the place of consumption (and disposal). Although toys are manufactured globally, 'China is by far the biggest exporter of toys in the world' (European Commission 2008:2) with 'Hong Kong-owned toy makers supply[ing] nine out of ten toys sold in the United States' (Tsang 2010).

In 2007, China's manufacturers accounted for approximately 80% of the world market for toys and employed more than 4 million workers (Navarro 2007). The China supply chain is held together by contractual relationships between brand owners, toy companies, Chinese manufacturers and suppliers and Hong Kong brokers who handle logistics. Many of these toys are manufactured in Guangdong Province, a special economic zone in China, where approximately 70%-80% of the world's toys are made in 'supply chain cities' (Navarro 2007: 14) that make products for foreign-owned brands, 'on a scale and at a price no other country can match.' (Spencer 2007).

According to Biggemann (2008: 1) 'the toy industry sources more than two-thirds of its products from China' and at the time of the recalls the Chinese toy sector was estimated to comprise approximately 2,700 companies (See Dannwolf et al 2011: Woo 2008). Navarro (2007: 4) notes that 'theattractiveness of China as an off-shore destination includes low wages, a highly efficient industrial network clustering, lax environmental regulations and enforcement, minimal worker health and safety regulations as well as 'low raw material costs' (Kavilanz 2007). In addition, China's potential as a lucrative consumer market of enormous proportions, makes it even more attractive to foreign investors.

Although there are obvious advantages in setting up business in China, others note the inherent weaknesses from the Chinese perspective. For instance Li and Fung Research Centre (2006: 19) observe that

> many export-oriented clusters in the People's Republic of China are owned by foreign investors, who choose to set up business in China because of the cheap land and favourable tax policies …they often lack a common mission, trust and co-operation required for a successful and all-embraced cluster' (Li and Fung Research Centre 2006: 19).

Most large toy companies now manufacture their products in foreign countries, usually in developing economies. This is typically achieved through a network of 'contract factories' (that is factories not owned or operated by the toy company), but with which toy companies enter into partnership agreements to manufacture branded toys to certain specifications. Mattel provides a good example of this arrangement. Although the company does own some factories in China, the majority of the recalled toys were manufactured in 'Tier II' factories, that is, facilities not owned or operated by the company. Similarly, the majority of toys in this study were manufactured in these types (Tier II) of factories (See Figure 6.3)

Figure 6.3: Example of Mattel's Global Manufacturing Facilities

Mattel's Global Manufacturing Facilities			
Tier 1	11 manufacturing and tooling facilities – owned, operated or managed by Mattel	China Indonesia Malaysia Thailand Mexico	Manufacture approximately 50% of Mattel's products.
Tier II	75 contract factories or vendors, not owned, operated or managed by Mattel	China India Brazil	Manufacture approximately 50% of Mattel's products. Mattel products may account for between 30%and 90% of a vendor's total annual production.
Tier III	1,000 licenses who have signed agreements with Mattel	Not stated	Permitted to use Mattel logos and characters on various products such as apparel, electronics and sporting goods.

Source: Mattel Global Citizenship Report (2007)

There are specific advantages in these types of off-shoring arrangements, noted by Johnson (2001: 119) as 'allowing toy companies to transfer their labour costs and pollution, but also capital investment costs, avoiding a multimillion dollar investment in plant, property and equipment'. The International Council of Toy Industries, on its website, also notes the economic advantages of off-shore manufacturing:

> While Europe, Japan and the United States have highly developed research and development programs as well as manufacturing facilities, the lower labour costs in such countries as China have made the Far East of ever-increasing importance in production phases of the toy industry (International Council of Toy Industries (ICTI 2010 at: <http://www.toy-icti.org/info/internationalsales.html>).

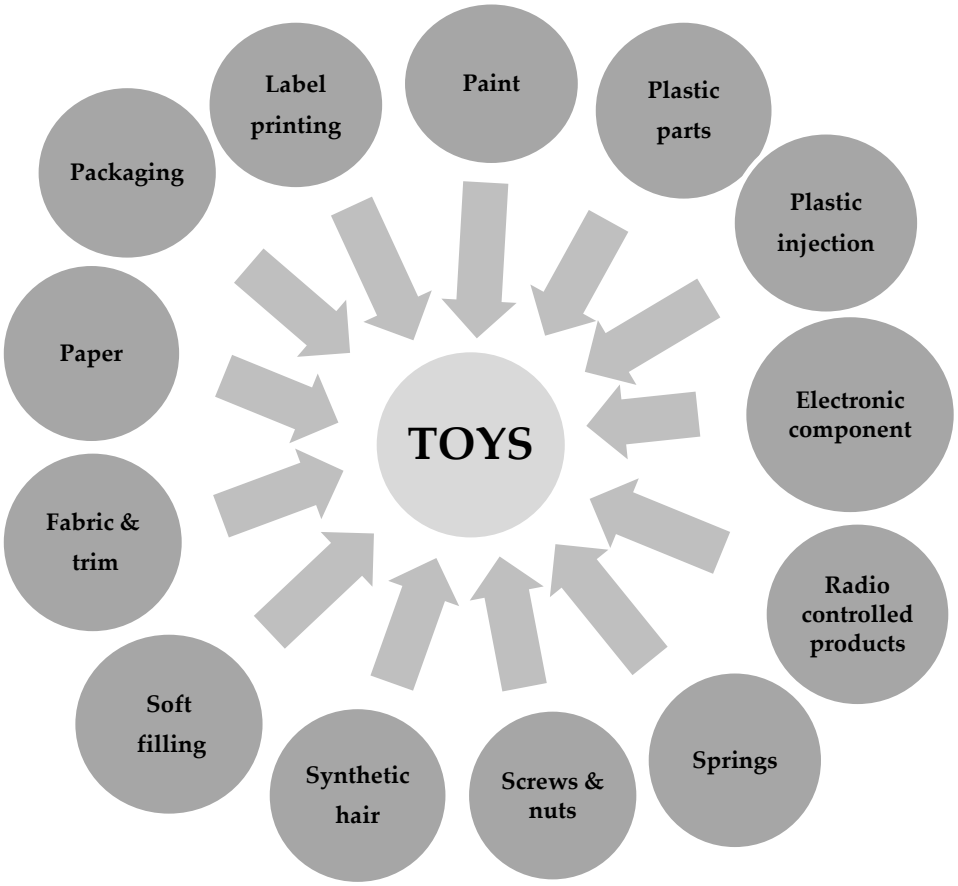
In addition, Johnson (2005: 22) argues that 'this dual sourcing strategy achieves high productivity in [Mattel's] own plants, while ensuring changes of customer demand and performances can be satisfied through outsourced partners'. This type of arrangement (which many companies have, not just Mattel) also provides a buffer between foreign manufacturers and their supply chain partners.

During the recalls this structure provided an opportunity for blame-shifting to occur up and down the chain. Foreign manufacturers avoided responsibility, by blaming Chinese contract factories for both lead and magnet-related unsafe toys. However these dedicated or preferred contract factories (in China) form an integral part of toy companies extended supply chains, and as such toy companies are responsible for poor production practices and inadequate testing regimes, in short the safety of products that bear their brand, wherever they are produced in the world. Chinese contractors, on the other hand, blamed local vendors (e.g. those who supplied lead-contaminated paint or painted components of toys with leaded paint).

There was a perception too that many of these Chinese contract factories were small to medium enterprises, but this is inaccurate. Companies like Early Light, for example (that made Mattel's Sarge die-cast cars) might more accurately be described as mega contractors, also making products for other global toy giants including 'Hasbro, Jakks Pacific, Lionel, and MGA Entertainment' (Early Light Industrial Co. Ltd 2012 website at).

However, as Navarro (2007: 11) notes, the China toy supply chain differs from earlier off-shoring models (like Japan) manufacturing 'a single product or set of products in highly localised supply chains [that] extend a 'just in time' [speed to market] principle to the entire supply chain' (Navarro 2007). (See Figure 6.4):

Figure 6.1: The Guangdong Toy Supply Chain



Source: Enright Scott and Associates Limited Research, reproduced in Navarro (2007: 11) Figure 1: The Toy Cluster of Guangdong Province

Guangdong province is situated in the southern part of mainland China, and is known as 'China's South Gate'. The capital city, Guangzhou lies close to Hong Kong, and Macau. Zhujiang (The Pearl River), China's third largest river, runs through Guangzhou and is navigable to the South China Sea. Here it is said many of China's dirtiest industries are located, mostly manufacturing goods for export. Spencer (2007: A25), in *The New York Times*, cites a study published in

the US Journal of Environmental Science and Technology as finding that '89% of emissions of sulphur dioxide, an air pollutant that causes acid rain, are released in the process of export manufacturing'. The same study also found that 71% of particulate matter, the small particles that cause smog and respiratory problems can be traced to the manufacturing of exported goods. Edwards (2009: 7), citing Morrison 2008, also notes that 'Pollution is taking an immense human toll as China's economy rapidly industrialises without adequate environmental management or protection of public health'. The localized nature of the China supply chain means that the risks, harms and consequences associated with the manufacturing activities carried out there are specifically local.

A report in *TerraDaily* in July 2007 highlights these concerns:

> In the more than three decades since Chinese factories began churning out clothing, toys, electronics and other goods for consumers around the world, China's natural environment has paid a price. Rampant pollution is leading to widespread health problems and water shortages that are increasingly viewed as a threat to the nation's stability. Traditional ways of development have caused the near breakdown of China's resources and environment, and people's lives are in great danger', said Pan Yue, Vice Minister of the State Environmental Protection Administration (SEPA) (quoted in *TerraDaily*, 4/7/2007).

These observations are consistent with a central tenet of this chapter that is the argument for an equivalent focus on the 'local', especially in relation to the harmful consequences of different supply chain activities for the people, places and natural landscapes where these industrial activities occur

Risks in the Supply Chain

Disruption is the greatest risk to any supply chain, as many toy companies experienced during the global toy recalls in 2007 when toxic lead paint was introduced to the manufacturing sector of their off-shore supply chains in China. This proved damaging to corporate image, brand reputation and the relationships of trust between toy companies, their supply chain partners and consumers. In these cases, the greatest disruption occurred because of the introduction of lead paint (in China) to the extended supply chains of toy companies who were headquartered elsewhere (e.g. in the United States, Canada and Australia). This organizational and geographical distancing from manufacturing hubs can compromise quality as well as reduce transparency and accountability when something goes wrong. As Teagarden (2009: 10) notes 'the longer and more complex the supply chain, the higher the risk of the absence of world class processes and material controls'.

Although the global supply chain is typically described as complex and convoluted, it might also be described as fragmented and localized (e.g. different companies carry out different supply chain activities in different countries). For instance, export logistics is the only part of the chain that has a truly global *function* that is the phase that distributes finished products worldwide. As already noted, the impact of different supply chain activities (extraction, production, consumption, distribution, and disposal) is acutely local and specific to different people, places and natural landscapes. For example, an unsafe toy may be designed in America (Dora the Explorer) or Australia (Bindeez), manufactured in China (or another country), exported from Hong Kong, consumed in America, Canada, Asia, Europe and disposed of in the country of import and sometimes elsewhere.(e.g. some of Mattel's contaminated toys were disposed of in landfills in Mexico).

Figure 6.2 Different Activities Different Places these Cases

Developed Economies	Developing Economies	Developed/Developing Economies

Upstream Activities (America, Canada, Australia**)**	**Midstream Activities** (China, Hong Kong)	**Downstream Activities (**America, Canada, Australia, United Kingdom, New Zealand, Ireland etc.)
• Design • Development • Intellectual property • Technical property • Information technology • Tooling • Marketing • Advertising • Public Relations	• Raw material sourcing • Manufacturing • Assembly • Packaging • Export logistics -Transport -Shipping	• Import Logistics -Transport - Warehousing - Distribution • Consumption • Disposal

In the 'authorised' supply chain model, toys move along the chain in a linear fashion from one organisation to another, each of those organisations carrying out the activities assigned to them. One reason the toy supply chains in these cases were convoluted was due to the inclusion of numbers of 'unauthorised' supply chain 'outsiders', permitted into the chain by supply chain 'insiders' (toy company's supply chain partners in China) (See Chapter 10).

What makes the process 'complex' is not so much the structure of the chain; rather it is establishing and maintaining robust 'relationships of trust' with supply chain partners when arms-lengths governance is the order of the day. When something goes wrong in another jurisdiction, as it did in China (e.g. lead paint on toys; magnets dislodging from finished toys) then managing the political and economic relationships associated with the fall out becomes the complex part.

Known risks

Lead in paint was a known risk in the China supply chain, as evidenced by the fact that companies were already testing for it, and most only strengthened procedures that were already in place (see also Liroff et al 2008). Global consultants, Ernst & Young (2009:12) also note the consistency of product quality as one of the risks in off-shore sections of supply chains:

> Once the customer has certified the supplier, controls must exist to ensure the supplier consistently produces at the expected standards. This is not always straightforward in off-shore destinations, where sample products may be up to standard, but subsequent products, unless closely monitored, may not be.

According to a Newsletter published by the Sustainability Purchasing Network Newsletter (SPNN 2007 : 1-2), now the BuySmart Network suggests that 'addressing toxicity is an inevitability for supply chain managers' and that 'organisations will ignore it at their peril'.

> Companies who fail to address the toxicity of supply chains and the implications associated with chemical exposure to humans and the environment are likely to suffer losses to brand reputation, and revenues as well as facing litigation by the community. The benefits of addressing toxicity in the supply chain include reduced costs, vendor consolidation, improved productivity, product differentiation, new market opportunities and better public and stakeholder relations

The World Economic Forum (WEF 2012:47) suggests that 'the concept of 'anticipatory governance' could be applied to challenges in regulating global supply chains'. Manufacturing may be located abroad (typically in the developing world) but the locus of control rests with the off-shoring company (typically in the developed world). There may be variations on this theme however the biggest toy companies operate

this way. But do they adequately take precautions in relation to potential risks throughout the supply chain? And How well did toy companies enforce, monitor and validate these procedures?

As noted above, there are 'external' and 'internal' influences on the China supply chain (from within and without China) and the roles of 'insiders' and 'outsiders' exert different pressures on supply chain dynamics and relationships as these relate to politics, business culture and regulatory pressures:

Table 6.3: External and Internal Pressures

External	Economic	Currency Fluctuations (yuan)
	Political	Political unrest.
	Business culture	Interpreting western business practices and product safety codes.
	Regulatory	Standards and regulations imposed from outside China (Regulators and Politicians in importing countries).
Internal	Economic	Currency Fluctuations (yuan to US$)
	Business Culture	*Guanxi*, closed networks
	Political	Provincial versus National government intervention in business practices in economic zones.
	Regulatory	Standards and regulations imposed from inside China (e.g. quality inspections).

A number of questions arise from considering these types of pressures, in the context of this study. These include: what were the underlying reasons for why lead was introduced to the China supply chain? Did misunderstandings exist about whose standards? What impact do lean supply chains, have upon what happens on the ground in China? Was there miscommunication between companies in the supply chain (information not shared or information communicated in English rather than Chinese)? Did market forces (e.g. fierce competition and speed to market) create the type of 'strain' (See Agnew 2009) that may contribute to opportunistic crimes such as chemical substitutions and repeated

unauthorised outsourcing? How did the absence of an appropriate gatekeeper (e.g. toy companies in the west taking their eye off risk management and quality control) contribute to what occurred in their extended supply chains?

Conclusion

This chapter has provided an overview of the dynamics of the 'global' supply chain and distribution network, the primary mode of transference for all these toxic toys. It has highlighted the known risk of lead in the supply chain, given that most companies already had procedures in place to test for it. It challenges the 'global' in the supply chain, arguing for an equivalent focus on 'the local', one that recognises that in the practice of off-shoring companies are increasing localising the risks and harms in their extended supply chains. Toys may be distributed globally, but the impact of the lifecycle of toxic toys (extraction, production, consumption and disposal) is experienced most acutely at a local level by bodies, places and nature where discrete activities in the extended supply chain take place. The issue of how toy companies (in the west) and their supply chain partners (in China) mitigated the harms they caused is explored further in Chapter 10. The specific case of RC2 Corporation and the adulteration of Thomas™ the tank engine wooden toys with lead is the topic of Chapter 7.

Chapter 7: Case Study: The Trouble with Lead

RC2 Corporation and Thomas™ & Friends Wooden Railway Sets

Source: USCPSC Release 07-212, 2007

Introduction

"My children cut their teeth on Thomas™ the tank engine"

The June 2007 recall of approximately 1.5 million Thomas & Friends™ wooden railway sets by American company, RC2 Corporation, 'was the first to raise global concerns about excessive levels of lead in the surface paint of toys' (Schmit, *USA Today*, 22/1/2008a). It attracted worldwide media attention as toys were removed from shelves throughout Asia, the United States, Canada, Europe, the United Kingdom, Ireland, Australia and New Zealand. Far from being an isolated incident, the Thomas™ recall marked the beginning of a spate of similar recalls by companies large and small, that saw 'more than 17 million toys recalled [in 2007] because they violated the U.S. federal lead paint standard' (Morrison 2008 cited in Becker, Edwards and Massey 2010: 7986). As well, the recalls came on the back of a range of unsafe products coming out of China including tyres, toothpaste and pet food, events that exposed the vulnerability of the off-shore supply chain. The question in many people's minds was if a trusted brand like Thomas™ can be contaminated, just how widespread and systemic is the problem, and what about less expensive unbranded toys?

This case study spans the period from March 2007, when lead was first discovered on a Thomas™ wooden railway toy, to December 2009, when RC2 incurred a civil penalty from the US Consumer Product Safety Commission. At the time, the fine was described as 'the highest for violations involving importation or distribution in commerce of a regulated product and the third highest of any kind in USCPSC history' (USCPSC 2009 Release 09/237).

The Toys

Thomas™ the tank engine is an intergenerational favourite that has been around for more than sixty years. The Thomas™ stories were 'first created by an Anglican clergyman, the Reverend Wilbert Awdry as a way of entertaining his young son Christopher as he recovered from measles (Jones, *Mail Online,* 7/1/2010). They were simple moral tales about the exploits and adventures of a group of railway engines given human faces and personalities, with the first stories published in 1945 and Thomas the Tank Engine™ first appearing in 1946 (Gunn Undated at http://www.angelfire.com/nc/shiningtime/history.html).In Christmas 1945 the Rev. Awdry made his son Christopher a simple wooden toy engine that was later christened "Thomas" and so Thomas the Tank Engine was born (HIT Entertainment 2013 at http://www.thomasandfriends.com/en-gb/about/index.html)

By 1984, 'a whole new generation of children were introduced to Thomas the Tank Engine and Friends when the first of the T.V. series by that name was made' (Gunn Undated at: http://www.angelfire.com/nc/shiningtime/history.html). Today Thomas™ is a global brand, with a plethora of merchandise, proving lucrative for brand owners, toy corporations and entertainment companies alike.

The Company

Headquartered in Illinois, RC2 Corporation has been described as 'the little company that could… emerging in the past few years as a popular link in the toy manufacturing chain, connecting media outlets like Disney, Nickelodeon and Discovery Communications with inexpensive labour in China' (Barboza and Story, *The New York Times*, 19/6/2007a). In 2007, RC2 employed approximately 832 people (RC2 Annual Report and 10K Filing 2007: 6) and described itself as 'a leading designer, producer and marketer of innovative, high-quality toys, collectibles and infant and toddler products including high profile brands like Thomas & Friends™, Bob the Builder™, Winnie-the-Pooh™ and Sesame Street™.

Although much smaller than transnational competitors like Mattel and Hasbro, RC2 Corporation was a global player, with 'more than 25,000 retail outlets in North America, Europe, Australia and Asia Pacific' (RC2 Annual Report and 10K 2007: 4). In 2006, the company was 'ranked in the top 10 U.S. toymakers with sales volume of about US$500 million' (Pritchard, *Associated Press*, 2/10/2007a). Company revenue rose from US$213 million in 2002 to US$519 million in 2006. In 2007, '40.2% and 37.8% of their sales came from pre-school products and infant and toddler products respectively, most selling through chain retailers (68.3%) and specialty retailers, wholesalers and OEM dealers' (RC2 Annual Report and 10K 2007: 2). By 2007 RC2 was 'a party to more than 400 license agreements, with terms generally of two to three years' (RC2 Annual Report and 10K Filing 2007:2).

In similar vein to most of the big toy companies, a significant portion of RC2's sales are derived from its top three customers, mega retailers Wal-Mart, Target and Toys/Babies "R" Us (See Table 7.1).

Table 7.1 RC2 Corporation Top Three Customers Percent of Net Sales 2005-2007

Top Three Customers	**Percent of Net Sales**		
	2005	**2006**	**2007**
Wal-Mart	13.4%	16.3%	15.4%
Target	12.0%	13.1%	14.1%
Toys R Us/Babies R Us	15.1%	14.8%	13.1%
Total	**40.5%**	**44.2%**	**42.6%**

Source: Tabulated from RC2 Annual Report & 10K Filing (2007: 16)

Like most toy companies, RC2's business is cyclical and highly seasonal, with 'approximately 59.2% of net sales for the three years ended 31 December 2007, being generated in the second half of the year - August, September, October and November being the largest shipping months' (RC2 2007e: 6). When the recalls occurred in June 2007, 'RC2 was trading at over US$45 per share, the highest level it had ever reached' (Kemper and Martin, *QFinance* 2007: 1), 'painted toys were a key segment of China's manufacturing sector and the global demand for colourful, inexpensive toys seemed insatiable' (Kemper and Martin, *QFinance,* 2007: 2-3). But the recalls would occur in the lead-up to Christmas, one of the busiest and most profitable seasons for both RC2 and the toy industry as a whole.

Toy Safety

At the time the recalls occurred, the safety of toys was integral to RC2's ethos, as illustrated by the following statement - 'Our products are designed, manufactured, packaged and labelled to conform with all safety requirements under U.S. Federal and other applicable laws and regulations, industry-developed voluntary standards and product-specific standards' (RC2 Annual Report and 10K 2007: 6).

China Operations

According to the Institute for Global Labour and Human Rights (Kernaghen et al 2007), RC2 Corporation set up its China headquarters in 1989, 'displaying its corporate logo on office buildings in the Li Cheng Industrial Complex, which also houses three toy factories – Peng Hui, Yong Yi and Ri Sheng (Kernaghan et al 2007: 11). The authors note that 'all three factories produce plastic and metal toys, apparently with RC2 accounting for the vast majority, if not all the production. There are approximately 7,000 workers in total in the industrial complex (Kernaghen et al 2007: 12).

In 2007, RC2 reported sourcing '88.2% of its products from China' through a network of dedicated contract manufacturing facilities:

> We primarily use six third-party, dedicated suppliers who manufacture *only* our products in six factories, three of which are located in the RC2 Industrial zone. The RC2 Industrial Zone is the name of a factory complex developed in 1997 and located in Dongguan City China, (approximately 50 miles from Hong Kong), where three of our third-party, dedicated suppliers operate freestanding factory facilities. Most of our third-party dedicated suppliers have been supplying us for more than ten years. Third-party dedicated suppliers produced 40.3% of our China-based product purchases in 2007 (RC2 2007:5).

As RC2 explains, these dedicated suppliers are supplemented by what the company refers to as 'other suppliers in China' (RC2 Annual Report and 10K 2007: 5).

> Products are manufactured to RC2's specifications using moulds and tooling that we own. These suppliers own the manufacturing equipment and machinery and purchase raw materials, hire workers and plan production. We purchase fully assembled and packaged finished goods in master cartons for

> distribution to our customers. We enter into purchase orders with our foreign suppliers and generally do not enter into long-term contracts (RC2 2007e: 5).

RC2 acknowledges that these 'dedicated suppliers' are responsible for purchasing raw materials. 'Since our products are manufactured by third-party suppliers, we do not directly purchase the raw materials used to manufacture our products' (RC2 2007e: 8). But according to their 10K Form (2007) the company, through their 'far-east product sourcing operations', employed 290 people in Hong Kong and China, responsible for among other things, assisting suppliers with the sourcing of raw materials and packaging, providing on-site quality control, and facilitating third-party testing:

These same arrangements were also in place in 2006, although at that time RC2 'employed 272 people in Hong Kong and China…' (cited in Lewis et al 2008: 13), to carry out these activities. But in June and September 2007, several of these precautionary measures – in particular, sourcing *safe* raw materials, on site quality control and third-party safety testing – appear to have failed, leading to the recall of millions of Thomas & Friends™ wooden railway toys coated with lead paint.

Precursors

Whether or not RC2 (and other companies whose products were recalled for lead) could have predicted these events is open to debate. However, there is evidence to suggest that there were early warnings and near misses that ought to have alerted the toy industry more widely (and RC2 in particular) about the potential for lead in the China supply chain.

For instance, a study by Liroff et al (2008: 1), published by the *Investor Environmental Health Network,* argues that the toy industry not only ought to have known about the trouble with lead well before the 2007 recalls but also ought to have declared this in their financial reports:

> '...information was available to industry insiders in the years prior to 2007 to suggest that products sourced from China could contain lead paint. However the companies who were hit hardest, like RC2 and Mattel disclosed little about these risks in financial reports prior to the 2007 recalls'.

However, according to Liroff et al (2008: 12) this knowledge failed to translate into warnings to investors, and in RC2's case:

> although the USCPSC issued 46 lead-related recalls between 2001 and 2006, 44 of which involved products geared toward children, none of RC2's SEC filings prior to its own recalls mentioned lead paint-related recall risks, instead discussing the potential for recalls generically in boilerplate language

In addition to the 46 lead-related recalls (by the U.S. Regulator alone) referred to above, a number of other incidents occurred which ought to have acted as early warnings for the toy sector more widely (if not for individual companies) that lead was re-emerging as a threat in the toy supply chain (See Table 7.2).

Early Warnings and Near Misses

One of the earliest recalls for lead contamination in a children's product occurred in March 1999, when Nike recalled 110,000 pairs of infant's Little Air Jordan XIV sneakers, when it was discovered that the trim paint contained lead amounts that exceeded US Federal standards (USCPSC Release 99-073, 1999). A number of other incidents also occurred which ought to have acted as early warnings for the toy sector, if not for individual companies. These are illustrated in the following table.

Table 7.2: Early Warnings and Near Misses: Lead

Date	Details
1998	A case of clinical lead poisoning occurred in a young Canadian child as a result of chewing on the pendant of a child's necklace. The pendant was made of pure lead covered by a decorative coating (Health Canada 1998).
March 1999	Nike recalled 110,000 pairs of infants Little Air Jordan XIV sneakers, when it was discovered the trim paint contained lead amounts exceeding US Federal standards. USCPSC Release 99-073, 1999
July 2003	A case of lead poisoning occurred when a four year old Oregon boy swallowed a medallion reportedly purchased from a toy vending machine (See Van Arsdale et al, MMWR 2004)
July 2004	Health Canada warns Canadians to discard toy jewellery obtained from vending machines because it may contain dangerous levels of lead. This follows a voluntary recall in Canada and the United States involving over 100 million pieces of jewellery from four different firms (Health Canada 2004).
March 2005	A recall of approximately 2.8 million metal charms containing high levels of lead was carried out in the United States and Canada in March 2005 after a U.S. child who had mouthed the charms was found to have elevated blood levels.
February 2006	Jarnell Brown died of lead poisoning after ingesting a heart-shaped charm from a bracelet, given away with the purchase of a pair of Reebok shoes (USCPSC Release??
29 March 2007	Lead is discovered on a Thomas™ wooden train toy, specifically the Thomas & Friends Oval Toy Set (USCPSC Settlement Agreement RC2, 2009: 3) by one of RC2's U.S. retail customers (See USCPSC Settlement Agreement RC2, 2009: 3)

The same authors note (Liroff et al 2008: 11) note that 'during 2007, 'lead paint recalls became so pervasive that the USCPSC posted a page on its website listing lead-related recalls dating back to 2001, linking it to a "hazard search" engine with "lead" as a search category.

> A "lead" keyword query identified 26 lead-related recalls in 2007 *before* RC2's first recall in June 2007. Items recalled included dollhouse furniture (2001), bobble head figurines (2002), lead-

tainted jewellery and zipper pulls (2005), small bendable animals (2006).

They argue that the series of recalls between 2001 and 2006 'was fair warning to any company that was importing goods from China' [and that] 'arguably any company with substantial imports from China had the information needed to identify a *trend* …'(Liroff et al 2008: 11). The report specifically criticises, RC2, for what the authors describe as 'limited disclosures' particularly in the following areas:

- failure to disclose that sourcing products from China presented lead paint and recall risks,
- limited disclosures about supply chain management, such as the degree of control over its supply chain (Lewis et al 2008: 12)

But even if companies did not heed these warnings, media reports suggest that RC2 was aware of the risks and were already testing for lead paint in the China supply chain, in particular the factory where the toys were produced, as reported by Oneal, in the *The New York Times* on 27 July.

> [Curt] Stoelting [RC2's Chief Executive] added that the company will further increase the rigor and frequency of its independent safety testing -- retesting each new style or product quarterly instead of annually. It will also hire independent auditors to supplement the internal audits RC2 already performs on its contract manufacturers.
>
> These procedures are in place at the plants where wooden trains, which were subject to the recall, are made, Stoelting said. They will be expanded within weeks to all of the 14 plants the company uses in China.

The excuse that companies (e.g. like RC2, Schylling Inc and Mattel Inc) did not know what was happening in their supply chains in China (e.g. in terms of systemic outsourcing of raw material supplies (e.g. paint) and/or painting of components (to other local vendors) would be a recurring theme throughout the lead-related recalls.

The Recalls

Discovery and Detection

For RC2 Corporation, the trouble with lead began on 29 March 2007 when one of their U.S. retail customers alerted them to the fact that a Thomas™ wooden railway toy had tested positive to levels of lead in its surface coating, above the permissible U.S. threshold at the time of 0.06 percent (USCPSC Settlement Agreement RC2 2009: 3). This finding would trigger a spate of recalls by the company, two of which were for Thomas & Friends™ wooden railway sets, the subject of this case study.

Over a period of four months between June and December 2007, RC2 Corporation announced five separate recalls for children's toys and infant products, three of which were for lead contaminated toys (See Table 7.3). For a company that generates '59.2% of their net sales in the second half of the year, with August, September, October and November being the largest shipping months' (RC2 Annual Report and 10K Filing 2007:6), these recalls occurred leading up to and during some of the busiest and most profitable months of the year for the toy industry. The toys were pulled from shelves throughout Asia, the European Union, Canada, the United States, the United Kingdom, Australia and New Zealand.

Table 7.3 RC2 Corporation Recalls June-December 2007

Recall Date	Hazard	Products
13 June 2007	Lead in surface paint on toy	1.5 million Thomas & Friends™ wooden railway sets, 26 models
21 August 2007	More lead discovered on surface paint of Thomas & Friends	Expanded recall of Thomas & Friends™ wooden railway sets
26 September 2007	Lead in surface paint on toy	300,000 Thomas & Friends™ wooden railway toys, 5 models
26 September 2007	Lead by weight	1,990 Silver Knights of the Sword mounted on red horses
6 December 2007	Lead in surface paint on plaques	First Three Years 3-in-1 Flush & Sounds Potty Training Seats
6 December 2007	Malfunctioning restraining straps	First Years Newborn-to-Toddler reclining feeding seats

RC2 Corporation (2007a, 2007b, 2007c, 2007d, 2007e)

But there would be a three month time lag between discovery of the lead by the company (in March 2007) and when they officially reported the lead hazard to the USCPSC (13 June 2007), triggering an immediate 'voluntary' recall, that captured media headlines around the world.

The First Recall

On the day (13 June 2007) when RC2 finally reported the lead problem to the USCPSC, the company announced the first of two recalls for Thomas & Friends™ wooden railway toys, pulling approximately 1.5 million sets off the market because of excessive levels of lead in their surface paint. The sets were sold in a retail window of harm between January 2005 and June 2007, 'suggesting that for two years RC2 failed to notice that some of its best-selling toys were being produced with lead-based paint' (Barboza and Story 2007a 19/6/2007). The toys were removed from store shelves throughout Asia, America, Europe, Australia, Canada, the United Kingdom and Ireland. In Australia 'about 18 different models were sold through RC2, trading as Learning Curve' (ACCC PRA 2007/9323), with one news source suggesting 'about 100,000 products [had been] sold across Australia since January 2005' (Brisbane Courier Mail 2007).

Rather than notifying the USCPSC (as the company is required to do under a 24 hour reporting rule for product hazards), RC2 put a hold on inventory of the offending toys and initiated their own internal investigation to find out what happened and why. This involved

> 'extensive testing of the Thomas & Friends™ wooden railway toys product line for the presence of lead, including tests conducted by independent certified labs in China and the US on finished toys, liquid paints and solvents used in the manufacturing process. This yielded multiple failing test results demonstrating that dozens of toy samples bore or contained paint or other surface coatings with excessive levels of lead' (USCPSC Settlement Agreement RC2 2009: 4).

It is interesting to note that in May 2007, a month before RC2's recall, the topic of Chinese imports to the United States was already on the horizon for the USCPSC, particularly counterfeit goods, as noted by Wilson in a U.S. Department of Commerce International Trade Update 2007: 3):

> In an effort to improve the safety of products being exported to the United States from China, the CPSC in April 2004 signed a memorandum of understanding with its Chinese counterpart, the General Administration for Quality Supervision Inspection and Quarantine. On May 21–22, 2007, Nancy A. Nord, acting chairman of the CPSC, travelled to Beijing to participate in bilateral talks that are a part of the agency's continuing efforts in this area

This would mark the beginning of ongoing negotiations between the USCPSC with representatives of China's General Administration for Quality Supervision Inspection and Quarantine about the topic of unsafe toys.

Apologies and Regrets

Partly because of the trust generations of consumers (parents, grandparents) had placed in the Thomas™ *brand* (rather than any particular company), these recalls generated a lot of public outrage. In response to the recalls, on 14 June, RC2 posted a reassuring message to parents and caregivers on their corporate website. It said, in part:

> The trust you have placed in the Thomas & Friends™ wooden railway brand is very important to us. We want you to know that we fully understand and share your concerns and are dedicated to safeguarding your children and that trust (RC2 2007a).

But critics and consumers did not necessarily accept the company's assurances. Instead they expressed disillusionment with the failure of the Thomas™ brand, which they had relied upon to guarantee their

children's safety, as noted by Watkins, on the *Harvard Business Review Blog Network:*

> [Consumers] believed that Thomas was a premium brand, and so let their kids do things with the toys they wouldn't have otherwise. When a mother saw her child put a Thomas engine in his mouth, she thought It's OK, it's not some cheap piece of garbage."We trusted that the people behind the brand wouldn't put our children at risk, and that's why we feel so betrayed" (U.S. consumer quoted in Watkins at *Harvard Business Review Blog Network*, 26/6/2007, at: http://blogs.hbr.org/2007/06/engine-of-destruction-lessons-1/).

Initially consumers were asked to return the recalled items at their own expense, but RC2 subsequently reversed this decision in the face of a consumer backlash. The ensuing public furore was politically and emotively charged with 'vestiges of historical fears of 'the yellow peril and narratives of domesticity threatened by potentially contaminating contact with an essentialised China' (Hanser 2013: 1).

What occurred was a scape-goating of China (as a nation), of Chinese manufacturers (as organizations) and the tarnishing of Made-in-China (as a brand). Toy companies (including RC2) shifted the blame to Chinese contract factories (in China) who were members of their extended supply chains. However, regardless of where the manufacturing hub of the supply chain is located toy companies (headquartered in the west) are accountable (usually to licensors) for the quality and safety of their branded toys, wherever they are made.

Michael Watkins, in Harvard Business Review Blog Network, makes some interesting observations about these dynamics in relation to RC2 Corporation's *Thomas* recall:

> Rather than admit responsibility and apologise, both RC2 and HIT are saying little. HIT is pointing fingers at RC2. RC2 offered to do the minimum possible – replace the tainted toys if parent mailed them in – but initially balked at paying for the postage, reinforcing the perception of greed. Under pressure, they

> reversed themselves, but the refund will come only after a couple of months, apparently because the company is having difficulty coordinating its own internal operations. Everything they have done is the antithesis of what we know about how to manage crises effectively (Watkins, *Harvard Business Review Blog Network*, 22/6/2007).

To place these recalls in the context of what was occurring at the time, it is important to appreciate that it was not only larger toy companies (like RC2, Schylling Inc and Mattel) that were recalling lead-contaminated products. For instance, Lotke et al (2007: 9), summarise a range of products recalled for lead violations in the first two weeks of October 2007, in the United States alone (See Figure 7.1).

Figure 7.1: Lead Recalls United States 1-17 October 2007

- 55,000 Skull pails filled with Halloween Candy Mix
- 350,000 book marks and journals
- 5,400 tabletop puppet theatres
- 2,400 Breyer 2006 Stirrup Christmas ornaments
- 19,000 deluxe wood art sets
- 49,000 Disney deluxe Winnie-the-Pooh 23 piece play sets
- 7,800 Princess Magnetic travel art set lap desks
- 10,000 Bendable Dinosaur toys
- 2,500 collectible "Jeff Gordon" mini helmets
- 2,400 Kidnastics Balance Beams
- 1.6 million cub scouts totem badges
- 11,200 Alpine design aluminium water bottles
- 192,000 key chains
- 15,000 children's toy decorating sets
- 63,000 Frankenstein tumblers
- 79,000 "Pirates of the Caribbean" Medallion Squeeze Lights
- 35,000 Baby Einstein Discover and play colour blocks
- 10,000 wooden pull-along alphabet and math blocks wagons

Source: Lotke, Rasmussen, Carter and Borosage (2007: 9).

But RC2 continued to shift the blame to China and in July 2007, as reported by Marco in *The Consumerist* (26/9/2007), RC2's CEO told a journalist from *The New York Times* that 'he fired the vendor who made the contaminated toys':

> We have always required our suppliers to follow our safety specifications. In this incident [September recall] those requirements were not met' (Curt Stoelting quoted in Marco, *The Consumerist*, 26/9/2007).

On the Harvard Business Review Blog Network, Watkins (22/6/2007), attributed the failure to 'the lack of an effective organisational immune system, no distributed early-warning system and no effective allocation of responsibility for problem-avoidance in the supply chain'. These observations would prove to be fairly accurate, in the light of a spate of lead-related recalls for a range of companies large and small.

Despite having testing procedures in place (as part of agreements with Chinese contract manufacturers), and implementing a strengthened Multi-Check safety system in July 2007 (a month after their first recall), RC2 announced an expanded recall of Thomas & Friends® when five more toys were found to be contaminated with lead. These toys were discovered during a massive internal testing program of more than 1500 toys undertaken by the company between June and September.

The Second Recall

In August 2007, more lead was discovered, this time in a further five models in the Thomas & Friends® range. The lead was found as part of an ongoing testing program of over 1,500 toys in the Thomas™ range. On 9 August, Chinese officials responded by revoking the export of licenses of Hangsheng Wooden Products Factory, the company responsible for some of RC2's toys. On 13 August, CNN.com(2007) reported that 'police were investigating [Hangsheng] for use of "fake plastic pigment", a type of industrial latex used to make surfaces smoother and shinier' (CNN.com 2007). In New Zealand, the *Dominion Post* was advocating for 'Western governments to have their own inspectors in Chinese factories' (Dominion Post 20/8/2007). Media reports reflected a sense of outrage and betrayal from consumers, as

well as the notion that someone should pay and that this should not be the consumer. Ultimately these events triggered an expanded recall (same products same problem).

Then On 26 September 2007, RC2 recalled a further five models of Thomas & Friends™ wooden railway toys contaminated with lead. In a statement on their website announcing the recall, the company expressed regret, emphasised the importance of trust and the safety of children and the corrective action they were taking to make sure it didn't happen again. However, both the US Consumer Product Safety Commission and RC2's recall notices, noted that toys with the codes "WJ' or "AZ" were *not* included in the recall. Subsequently, the Illinois Attorney General's Department found toxic and non-toxic toys packaged together. The question for consumers became which toys?

In the direct aftermath of the June recalls, RC2's executives were criticised for lying low and there was a reluctance on behalf of both the company (and the regulatory) to discuss when the problem with lead was first discovered (this would be revealed much later in the 'staff allegations' section of a USCPSC civil settlement agreement with the company). There was a general code of silence around toy safety, as Lipton and Barboza reported in The *New York Times* (19/6/2007):

> Staci Rubinstein, a spokeswoman for RC2 declined on Monday to comment on safety control measures at company plants in China. The Toy Industry Association which represents most American toy companies and importers, also declined to comment.

In relation to the timing of the company's disclosure of the product hazard to the regulator 'Scott Wolfson, a spokesman for the CPSC would not say how long ago RC2 discovered the [lead] problem or when it first reported it to Federal authorities' (Lipton and Barboza 19/6/2007).

Essentially it became a Chinese problem, with the prevailing view being that 'lead is a common problem in developing countries' (Possley and Oneal 27/7/2007). However, as Barboza (2007) pointed out in *The New York Times,* at the time, 'China had even stricter regulations than the United States when it came to lead in paint and consumer products'. By

August, Chow, in *Law 360* New York, 9/8/2007) was reporting that Chinese Quality Inspection officials were saying that, 'police were investigating both companies [Lee Der and Hangsheng Wood Products] use of 'fake plastic pigment' – the industrial latex used to increase the smoothness and glossiness of toy surfaces'.

Remedies and Solutions

The response by Chinese Regulators was to suspend the licences over over 750 toy companies (Barboza, *The New York Times,* 2/22/2007). As McBride (2009: 242-243) notes in an analysis of the toy recalls in the *Texas International Law Journal,* Chinese regulators also:

> …ordered an additional 690 toy factories in Guangdong Province, located in the south of China, to renovate or improve their facilities, while claiming publicly that "[ninety-nine] percent of toy exports in southern Guangdong Province, near Hong Kong, met quality standards." Given that more than one-third of toy producers in the Guangdong Province were affected by the export license suspensions and renovation orders, the *New York Times* (Barboza 2007) noted that China's dual messages "seemed contradictory." It is difficult to imagine that AQSIQ can effectively manage recalls and police product safety when, at times, its first impulse has apparently been to deny the existence of problems.

Several questions remain unanswered and we are left to speculate (along with the media) as to exactly how long lead paint had been in use in these factories (was it two years or more or just a particular batch within that manufacturing timeline?), who actually supplied the paint and why exactly did RC2 stop manufacturing with 3i in November 2006? Why would someone intentionally supply lead paint (the recurring speculation is cost-cutting).

The fact that the act of wrongdoing (introducing lead paint to the supply chain) occurred on Chinese rather than American soil, not only created jurisdictional issues from a regulatory perspective, but also problems for RC2 in claiming product liability insurance, because of the nature of the policies that it held (a domestic policy with a lead exclusion clause and an international policy excluding the territory of the United States). In short, RC2 was not covered for lead contaminated toys either abroad (in China where the toys were painted with lead) or at home (in America where the toys were consumed and subsequently had to be disposed of). The issue went to court and at first the court found in favour of RC2, but this decision was later overturned.

In the public domain, this recall (and others) became about the exploitative nature of off-shoring, the associated politics of lost American jobs and sacrificing quality for profit in an arms-length governance relationship between toy companies in the west and their preferred Chinese contract manufacturers. Instead it was about systemic practices of outsourcing paint supply to local Chinese vendors which RC2 claims they did not know about; it was about serious failures in supply chain risk management and about a serious long-term health risk (leaded paint) to both children and factory workers as well as the potential consequences for soil, air and water (through lead emissions to air, the potential release of contaminated waste water, and the disposal of the contaminated raw materials such as paint or paint pigment). It is unknown what the process was in China for disposing of contaminated raw materials.

Toys Still on Shelves

By September 2007, parents were beginning to test toys in their homes using Lead Check swab kits they purchased at local hardware stores, but this in itself developed into a furore over the reliability of those kits. Schoenfield writes in *The New York Times*, 'Safety experts warned that the do-it-yourself kits [were] not necessarily reliable. The Consumer Product Safety Commission, the Environmental Protection Agency and the Centers for Disease Control and Prevention do not recommend them because of concerns over accuracy.':

> "There are home test kits available, but they are qualitative, and their ability to identify lead at low concentrations is under question" (Mary Brown, Director of the lead program at the CDC quoted in Schoenfield, *The New York Times, 29/9/2007).*

One of the recurring questions throughout the lead-related recalls by politicians and consumers alike was what took so long? (e.g. from discovery of the lead to announcement of the official recall). At the time, the company, the regulator and the industry body, the Toy Industry Association, all seemed reluctant to comment. According to Lipton and Barboza, in an article in the *New York Times* (19/6/2007):

> A spokesman for the USCPSC, Scott Wolfson, would not say how long ago RC2 discovered the problem or when it first reported it to federal authorities
>
> The Toy Industry Association, which represents most American toy companies and importers, also declined to comment

The exact timing of this disclosure would later be documented in the USCPSC staff allegations of a civil Settlement Agreement with RC2 Corporation in 2009 (USCPSC Settlement Agreement 2009). However, it does seem reasonable to assume, as Lipton and Barboza (2007) noted at the time that 'RC2 had some control over the quality and safety of the toys made in China'.

Some commentators, like Watkins on the Harvard Business Review Blog Network were especially sceptical about who knew and when.

> What's the next predictable surprise in this sorry tale? Don't be shocked if we find out that one or both of the companies knew about the problem for some time before informing the Consumer Product Safety Commission. Such a delay would be unforgivable if it occurred, but not at all surprising (Watkins, *HBR Blogsite* 22/6/ 2007).

The following comments were typical of parents' response at the time:

> With my youngest son, everything goes in his mouth. I can't take any chances (mother of boys aged 5 and 13 months quoted in Barboza and Story, *The New York Times,* 19/6/2007a).

Here lies the root of parent's feelings of outrage:

> 'They believed that Thomas was a premium brand, and so let their kids do things with the toys that they wouldn't have otherwise. When a mother saw her child put a Thomas engine in his mouth, she thought "It's OK, it's not some cheap piece of garbage. "We trusted that the people behind the brand wouldn't put our children at risk, and that's why we feel so betrayed" (quoted in Watkins, *HBR Blog Network,* 22/6/2007).

Just as there was reluctance in the early stages of the crisis to identify the Chinese contract manufacturer that painted the toys, this also extended to a reticence to talk about the management of supply chain risks:

> Staci Rubinstein, a spokeswoman for RC2 declined to comment on safety control measures at company plants in China'(Lipton and Barboza, *The New York Times,* 19/6/2007).

Parents and caregivers were urged to immediately remove the toys from children and initiate the return process:

> Look for the Thomas & Friends Wooden Railway logo on the upper left-hand corner of the packaging and/or locate the manufacturing code on the bottom of the product or inside the battery cover (RC2 2007a).

This involved identifying recalled products, with RC2 publishing a brochure titled '*Is your product included in this recall'* which pictured the recalled toys in colour, including model numbers, detailed the return process, provided a link to track the status of replacement orders and a link to the official US Consumer Product Safety recall announcement.

The official USCPSC recall notice was more detailed than RC2's, providing the name of the products (various Thomas & Friends™ wooden railway toys), the number of units (1.5 million), the importer (RC2 Corporation), the hazard (surface paints containing lead), incidents and injuries (none), a description of the toys (list of recalled products by model), outlets where the toys were sold (toy stores and various retailers), and when they were sold (January 2005 to June 2007), approximate cost (between US$10 and US$70), country of manufacture (China), remedy (Consumers should take the toys away from children immediately and request a replacement toy) and contact details for RC2 (toll free number Mon-Fri and web site) (USCPSC Release 07-212 13 June 2007).

RC2 Corporation also posted instructions to retailers on their website, publishing a list of recalled items in North America including licence numbers and a downloadable Safety Recall Notice that could be displayed in-store, as well as well as instructions for consumers to complete a form indicating the item(s) being returned.

Following the June recalls, RC2 posted a set of **Frequently Asked Questions** (See Figure 7.1) on their recall home page:

Box 7.1: Frequently Asked Questions Pro-forma RC2 Corporation

Thomas Wooden Railway Recalls

Why did the Thomas Recalls occur?

The recalls occurred because RC2's product safety specifications, which clearly specify that paint used on the toys is to comply with all applicable standards and which further define the safety requirements for all materials used in all of our toys, were not met by small contract manufacturers and/or their paint suppliers. RC2 has terminated production of all Thomas products at the contract manufacturers implicated in the recalls. In addition, we have mandated that our other contract manufacturers not make purchases from the affected paint suppliers.

Are the other Thomas Wooden Railway Products safe?

To assure that the toys families already are safe, more than 1,500 individual Thomas & Friends™ Wooden Railway toy styles were retested. By casting this wide net, we discovered that five additional toys were potentially unsafe and they were recalled. If we discover any further issues either with current products or past production, we will react quickly to take action and inform consumers, just as we did in September 2007. We're hopeful that concerned parents recognize that our Thomas toys have been subjected to intense scrutiny and testing and are that much safer for it.

How do I know if this is a recalled item if my (caboose, train, destination, sign) doesn't have a date stamp?

Please review the product details of our June 13 and September 26, 2007 recall notices. If you cannot determine whether or not your item is part of the recalls, please contact our Consumer Services Contact RC2 Consumer Care Center via email at recalls@rc2corp.com or toll-free at (866) 725-4407. Our Customer Care Center is open Monday through Friday 8:00am - 5:00pm CST.

What should I do as a parent?

We urge you to check your children's products carefully to make sure that you have returned any recalled items to us. Prepaid U.S. shipping labels for the recalls, and help in identifying the recalled products are available on this website. You also may call our Consumer Care Center toll-free at (866) 725-4407 for assistance in identifying and returning the recalled products. If you believe your child has any health issues, please immediately consult your paediatrician or qualified health professional.

What are you sending in return?

We are sending exact product replacements where available. If the product has been discontinued, or no exact replacements are available, then RC2 will be replacing your product from inventory at its discretion.

We hear a lot about "excess levels of lead" what does that mean?

In the United States, toys and other articles intended for use by children are required to meet a regulatory standard for lead (16CFR, Section 1303) established by the U.S. Consumer Product Safety Commission in 1977. The standard requires the concentration of "total lead" in any children's product not exceed 600 parts per million (ppm). In addition, the American Society for Testing & Materials (ATSM) has published a voluntary consensus standard (ASTM Standard F963-07) that establishes a 90 ppm maximum for what's called "soluble lead". While compliance with this standard is not obligatory, most U.S. manufacturers, including RC2, take steps to ensure that their products comply with this standard as well as with the mandatory standard for total lead

Does my child need a lead test? Your best resource to learn more about if your child has been exposed to lead poising is your paediatrician. If you do not have a paediatrician, you can use the American Academy of Paediatrics Referral Service, or contact the physician referral service at your local hospital.

What have you done to ensure the quality of future toy production?

Since July 2007, RC2 has instituted several significant **additional safeguards** as part of our Multi-Check Toy Safety System to protect our toy quality. Click here to learn about our Multi-Check Toy Safety System.

Will there be more recalls?

While we hope that there won't be future recalls, if the need for a recall arises, we will move quickly to take action and notify consumers, just as we have in this instance. We believe the steps we've taken improve our ability to prevent future incidents.

Source: RC2 Thomas Wooden Railway Recalls Frequently Asked Questions (RC2 FAQ Thomas 2007c).

Remedies and Solutions

In response to their first recall RC2 implemented a 'Multi-Check Safety System', designed to prevent a recurrence of these events, but this was hardly a new initiative or without its inadequacies, as noted in a 2009 article by Watson in the *Daily Finance:*

> While the company's Multi-Check Safety System touts "tougher certification", "increased random inspections" and "zero tolerance" for compromise on RC2 specifications", the only concrete policy change seem to be "mandatory paint control procedures for contract manufacturers, including certified

independent lab test results of every batch of wet paint before the paint is released for production"

While this paint control program might have helped identify the tainted Thomas toys, it isn't sufficient to catch a wide variety of other potential pitfalls' (Watson 2009).

But given the knowledge of the risk of lead paint in the China supply chain within the toy sector these types of checks should already have been in place as a matter of course. Despite this corrective action, as noted above RC2 faced an expanded recall for Thomas & Friends™ wooden railway toys in September 2007

Responses to the company's handling of the recall were varied. On the one hand they were criticised for the 'silence of their senior executives' following the recalls (Watkins, *HBR Blogsite* 2007), and for secrecy surrounding naming up their dedicated Chinese manufacturers. On the other hand, they were congratulated for increased transparency as the recall progressed. For instance, Liroff et al (2008: 13) suggest that 'the company became more transparent as it attempted to manage the weaknesses in supply chain management', citing as an example how RC2's CEO Curt Stoelting outlined the corrective action the company was taking to address these failures:

- conducting rigorous audits of contract manufacturing facilities and their compliance with the Company's quality specifications,
- adding a new tougher certification program for paint suppliers, and,
- increasing the scope and frequency of testing for both incoming materials and finished products, which now includes testing requirements on every batch of paint used in the manufacture of wooden toys (cited in Liroff et al 2008: 13).

In response to the June recall, RC2 announced in July 2007, that it was instituting several *additional* safeguards as part of a Multi-Check Toy Safety System. These safeguards were subsequently documented in RC2's 2008 10K Filing as follows:

- Increased scope and frequency of testing for both incoming material and finished products, including testing of finished products from every production run,
- Tougher certification program for contract manufacturers and paint suppliers, including evidence that toy safety standards and quality control procedures are in place and operating effectively,
- Mandatory paint control procedures for contract manufacturers, including certified independent lab test results of every batch of wet paint before the paint is released for production,
- Increased random inspections and audits for both manufacturers and their suppliers, including semi-annual audits and quarterly random inspections for key suppliers,
- Zero tolerance for compromise on RC2 specifications reinforced by mandatory vendor compliance seminars and signed agreements (RC2 10K Filing 2008).

Reputational and relationship concerns were also high on the agenda, linked as they are to economic consequences. Liroff et al (2008: 13), citing RC2's 2008, 10k filing note that these risks included:

- the licensee relationship with HIT Entertainment, which licenses the production of Thomas and Friends products,
- the likelihood that addressing the recall and issues relating to the recall will divert management's attention and resources from [the] business, and

- the harm the recall may do to the relationship with the licensor who has granted the license under which we market the products affected (cited in Liroff et al 2008: 13).

Commenting on the status of the recall in a statement published on RC2's website in late July 2007, CEO Curt Stoelting was keen to focus on the rate of return of recalled products, re-emphasising the safety of children and the over-inclusiveness of the recall.

> We are encouraged by the high recovery levels of recalled products. Nothing is more important to us than child safety, which is why we took a conservative course of action and conducted a wide-ranging recall to not only include the product codes for the specific individual items that failed tests, but all of the wooden railway toys that could have been painted with the potentially unsafe colours, since wooden toy production began at the affected facility [unnamed] in January 2005 in RC2 2007 26/7/2007

The company was also keen to indicate its co-operation with the Regulator and its commitment to 'getting the message out to parents'.

> 'We continue to work closely with the Consumer Product Safety Commission to recover as many of the recalled products as possible. From day one, the Company has directed parents and consumers to its special recall website and its toll-free Consumer Care centre. The company believes the message is getting through to parents, not only based on the high levels of product recovered to date, but also because approximately 98% of the products returned from consumers match the recalled items list', said CEO Curt Stoelting quoted in RC2 2007 26/7/2007).

Time Lines and Time Lags

What took so long is a recurring theme throughout these case series. The timing of disclosure (to the regulator, to the public) are critical to these case studies, as an indicator of who knew and when. This chronological sequence of events is tabulated from the 'staff allegations' section of the USCPSC Settlement Agreement RC2 (2009). Where additional information has been sourced, this is referenced within the table 7.4.

Table 7.4: Timelines and Time Lags: Lead

When They Knew	Who Knew	What They Knew
Jan 2005	RC 2 Corp Overseas Winner	RC2 commissions Overseas Winner to manufacture Thomas & Friends™ wooden railway toys
Nov 2006	RC2 Corp 3i Corporation	RC2 ceases manufacturing Thomas & Friends™ wooden railway toys at 3i Corporation Ltd
29 Mar 2007	RC2 Corp US Retailer	A US retailer alerts RC2 that one of its Thomas wooden railway toys fails the lead test RC2 places a hold on inventories of the toy (the oval set) made by one of their dedicated Chinese factories, Overseas Winner Ltd RC2 initiates an internal investigation in consultation with contract manufacturers and pertinent retailers
30 Mar 2007	RC2	USCPSC deadline for reporting the hazard under the 24 hour regulatory reporting rule
1 April 2007	RC2	USCPSC deadline passes- RC2 fails to report the hazard
13 June 2007	RC2 USCPSC	RC2 reports the lead hazard to the USCPSC
13 June 2007	**First Recall**	USCPSC/RC2 recall 1.5 million Thomas & Friends™ wooden railway sets with lead in their surface paint

When They Knew	Who Knew	What They Knew
June 2007	RC2 Overseas Winner	RC2 severs its business relationship with Overseas Winner
June-Aug 2007	RC2 USCPSC	RC2 continues with additional testing of items from the Thomas & Friends™ wooden railway product line
17 Aug 2007 20 Sept 2007	RC2 USCPSC	- By supplemental reports submitted by RC2 to CPSC between 17 Aug and 20 Sept 2007 RC2 report they have obtained information which reasonably supports the conclusion that 5 additional toys from the Thomas™ product line have specific colours of paint that may contain excessive levels of lead - The ongoing investigation yields multiple failing tests for lead
26 Sept 2007	**Second Recall**	USCPSC/RC2 expand the recall to include a further 5 Thomas™ models from the product range

Source: USCPSC Settlement Agreement RC2 (2009: 2-6)

Chains of Harm

How is it that these toys were able to make it along the supply chain without detection? To understand this, it is important to reflect on the webs of relationships that exist along the chain. These relationships, although formalised in contracts, mostly seemed to be based on trust – it was breaches of trust that were the hallmark of the lead-related toy recalls. For example, Thomas™ brand owner (HIT Entertainment) and toy company licensee (RC2 Corporation) had a contractual relationship with conditions regarding brand quality.

RC2 Corporation and their dedicated contract manufacturer(s) in China (Hangsheng Wood Products, Overseas Winner and 3i) had agreements to manufacturer toys that were lead-free, to test raw materials like paint or paint pigment for lead and other heavy metals (at input), to test batches of toys (at throughput) and final products (at output). But these precautionary measures appear to have been ignored by RC2's dedicated Chinese manufacturers and RC2 appears to have failed to enforce and monitor their expectations for product quality.

But the introduction of a toxic substance to a supply chain does not occur in a vacuum. There are chains of command and control (organisational) in the country of the parent company (in this case America) and in the country of manufacture (in this case China) where key players in each organisation have decision-making authority about the day to day activities taking place under their control (whether this be design and development, manufacturing or distribution). Having said that, the overall responsibility for managing risks (like lead in raw materials) in the supply chain rests with the parent company (in this case RC2 Corporation).

The fact that testing for lead and other heavy metals was routine for toy companies, albeit not enforced and monitored in their China supply chains in these cases, suggests the presence of lead in particular (and more recently cadmium) was widely recognised as a supply chain risk by toy companies manufacturing in China.

The question is 'where does the buck stop' in terms of decisions made in toy company's supply chains, sections of which are located in different countries across the world?

Table 7.5: Chain of Ownership/Command

<table>
<tr><td colspan="3">Apax Partners
Private equity company and owner of HIT Entertainment in 2007
United Kingdom</td></tr>
<tr><td colspan="3">HIT Entertainment
Licensor of Thomas™ brand
United Kingdom</td></tr>
<tr><td colspan="3">RC2 Corporation
Manufacturer of Thomas™ toys under license
United States</td></tr>
<tr><td colspan="3">RC2's dedicated or preferred Chinese contract manufacturers
Guangdong Province, China</td></tr>
<tr><td>Hangsheng Wood Products Factory</td><td>Overseas Winner Limited</td><td>3i Corporation</td></tr>
<tr><td colspan="3">Un-named (and apparently unauthorised) paint supplier
China</td></tr>
<tr><td colspan="3">Learning Curve Inc
Distributor of toys in countries like Australia and wholly owned subsidiary of RC2 Corporation.</td></tr>
<tr><td colspan="3">Mega Retailers and Specialty Stores
Wal-Mart, K-mart, Toys "R" Us
United States, Europe, Canada, Australasia</td></tr>
<tr><td colspan="3">Purchasers
Parents, grandparents and caregivers</td></tr>
<tr><td colspan="3">End-users
Children between the ages of 2 and 6 years to whom these particular toys were targeted.</td></tr>
</table>

UK based HIT Entertainment, owner of the Thomas™ brand contracted with American company RC2 Corporation to manufacture Thomas & Friends™ wooden railway sets under license. The 1,506,900 units of various Thomas & Friends™ wooden railway toys recalled in June 2007 were made by RC2's dedicated contract factory, Overseas Winner Limited in Dongguan, China (See USCPSC Settlement Agreement RC2 2009.

The toys recalled in September 2007 were made by different Chinese factories, according to a spokeswoman for RC2, in response to questions by Leonhardt, of *The New York Times* on 24/10/2007*:*

> The all green maple tree tops and green signal bases were produced at Hangsheng Wood Products [in an 11 month window of harm] 'between March 2006 and April 2007' a business relationship that RC2 subsequently severed. Whereas, the 'All black cargo car was produced in [a two year window of harm between March 2003 and July 2005] by '3i, a small contract manufacturer that RC2 has not done business with since November 2006

By 26 July 2007, RC2's CEO was explaining to *New York Times* reporter, Louise Story how things broke down in the supply chain and Chinese contract factories were the scapegoats.

> We've always required our suppliers to follow our safety inspections. In this incident, those requirements were not met' (RC2 CEO quoted in Story, *The New York Times*, 26/7/2007).

This notion of *them* and *us* was a recurring theme in the lead-related recalls, captured succinctly by the CEO of another affected company, 'Simply put – our systems were circumvented and our standards were violated. We were let down and we let you down' (Mattel CEO, Robert Eckert, quoted in US SCOA 2008: 103).

Political and Legal Influences

Enquiries and Inquisitions

By mid-August a U.S. Senate Committee was requesting information from 19 companies about recent recalls and more than 9 million lead-tainted children's products (Goldman, *Los Angeles Times*, 24/8/2007). On 22 August, the U.S. House of Representatives Committee on Energy and Commerce wrote to RC2 asking them to address a series of questions about the recalls. On 6 September, RC2's CEO Curt Stoelting responded:

> ‘On behalf of everyone at RC2, we are writing to you today not only to answer the questions posed in your letter of 22 August, 2007 but also to assure you and your fellow committee members that RC2 is in the business of making safe, high quality toys for children. We share your concerns and assure you that nothing is more important to us than keeping children safe’ (RC2 Corporation 2007g).

The recalls also exposed the US Consumer Product Safety Commission to closer scrutiny and criticisms that it was underfunded, under resourced and ill-equipped to monitor the safety of the 15,000 products under its surveillance each year. The agency also faced accusations of regulatory capture, having allegedly taken trips paid for by the industry it regulates. There were calls from members of congress for the then Commissioner of the agency to resign over these allegations. The compelling question was how did these toys move along a supply chain where testing of raw materials and finished products for heavy metals was already in place without being detected? And even more disturbing, was this only the tip of the iceberg?

On 30 October 2007, the U.S. House of Representatives Committee on Energy and Commerce again wrote to RC2 raising further questions. The topic of discussion in the public domain turned to the frequency, rigorousness and independence of product testing, with affected companies quick to publicise their commitments to toy safety. Retailers began increasing testing in response to the recalls. Mega retailer, Wal-Mart, for instance, said ‘it was increasing its third-party testing, adding an average of 200 more toy safety tests a day’ (quoted in Goldman, *Los Angeles Times*, 24/8/2007).

But consumer activists like Edmund Mierzwinski of the U.S. Public Interest Research Group (PIRG) were critical of this sudden flurry to address product safety:

> ‘These are things they should have been doing already -- the manufacturers, the distributors and the retailers. The toy manufacturers and the department stores have worried too much about price and not enough about quality. So they're responsible

> for this mess' (Edmund Mierzwinski, PIRG, quoted in Goldman *Los Angeles Times* 24/8/2007).

Amidst the furore, there were calls from the U.S. Consumers Union for all toddlers to be tested for lead exposure by their paediatricians.

Class Actions and Law Suits

The June and September recalls led to numerous class action law suits against RC2, alleging that the recalled toys were negligently manufactured and tested. The toys were contaminated in China and consumed predominantly in America, but also in other countries such as the United Kingdom, Ireland, New Zealand and Australian. RC2's 26 July 2007 press release noted that, 'an anticipated US$3-4 million net charge for the second half of 2007 included estimated defence costs related to the 12 class action lawsuits filed against the company' (Liroff et al 2008: 13).

On 22 June 2007, a Chicago parent filed a proposed class action lawsuit against RC2 on behalf of all purchasers of Thomas® wooden railway coated with red and yellow surface paint containing lead.

> The named plaintiff 'purchased a number of the lead-tainted toys for her toddler boys beginning in 2006 believing the toys were safe. Now, according to [her solicitor] she wonders about the long-term health effects on her children
>
> "The biggest horror of this story is that parents know their toddlers often put toys in their mouths…. Consumers trust that companies like RC2 will live up to the promise it makes in its advertising, promising "safe and quality playthings' (Plaintiff's attorney cited in Hagens Berman, Sobol Shapiro 2007).

An article in *The Chicago Tribune* (Higgins 14/8/2007), reports that 'two Indiana couples filed a lawsuit against RC2 and two related companies (Racing Champions ERTL Corp and Learning Curve Brands Inc) in relation to the June recall of Thomas & Friends™ wooden railway toys:

> The toys had been on the market since 2005 and "defendants knew, or should have known, that the toys were defective and

> presented a serious risk to the health and safety of children", the lawsuit said. The lawsuit alleged that the toys were produced in China and that RC2 failed to adequately screen and test the products for lead

In January 2008 RC2 agreed to pay US$30 million to settle a nationwide class-action lawsuit representing hundreds of thousands of families who bought the Thomas & Friends™ toys. Under the settlement agreement, class members can receive cash refunds or replacements of the toys… plus a "bonus" toy. Also, RC2 will institute new quality controls to prevent future infractions, pay US$2 million to plaintiffs' attorneys and US$5,000 to five plaintiffs, as well as donate US$100,000 to a non-profit to be identified (Ihejirika 2008).

According to Schmidt, *USA Today*, 22/1/2008).

> The class-action called for reimbursements for hundreds of thousands of consumers and improved product safety, which RC2 says it has implemented. Consumers would be reimbursed in cash for recalled toys or offered a replacement plus a bonus toy if they prefer. Customers who lack toys and proof of purchase can get $15 coupons.

As part of the settlement, RC2 also 'promised to step up testing and auditing of materials, improve communication between U.S. workers and those overseas, and require contract manufacturers to meet its testing and audit standards'. (Schmit, *USA Today*, 22/1/08)

Product Liability

Most companies carry product liability insurance, so it is debatable exactly how much such violations cost the corporate purse in real terms and thus how effective fines are in deterring companies from re-offending. For instance, RC2 notes in its 2007 Annual Report and 10K filing,

> '...we carry various product liability insurance policies with coverage in aggregate of over US$75.0 million per occurrence. Certain policies have coverage exclusions including, but not limited to, some policies that exclude claims related to lead' (RC2 Annual Report & 10K 2007:6).

But if RC2 was relying on recovering all or some of its costs from product liability insurance, the company was to be disappointed:

> When RC2 turned to its insurers for coverage relating to the class actions, however, both its U.S. and international insurers denied its claim. The U.S. policies contained a lead paint exclusion, which specifically applied to the type of liabilities for which RC2 was seeking coverage. That left the international policies which did not have a lead paint exclusion (Elkind and Carter 2010: 1).
>
> The international policies covered bodily injuries caused by an "occurrence" that took place in the "coverage territory", which included anywhere in the world except the U.S. There was no dispute that the toys were manufactured in China. The international insurer took the position that the "occurrence" giving rise to the injuries alleged in the class actions took place within the U.S. and thus its policies did not apply (Elkind and Carter 2010: 1-2). As RC2 unfortunately found out the lead paint exclusion in its U.S. policy left it uncovered in a major market for its products (Elkind and Carter 2010: 2).

Lobbying

The toy industry's biggest trade group (The Toy Industry Association) asserted that its members had a good system of safety standards and compliance and that the group was working toward a "uniform safety program."

> 'The first step for us is enhancing the system and making sure the system works,' said Joan Lawrence, the group's vice president of standards and regulatory affairs. 'I don't know if hearings are necessary because we have long been in conversations with individual members and we plan to continue those conversations.' (Lawrence quoted in Goldman, *The Los Angeles Times*, 24/8/2007).

Part of the analysis of who knew and when relates not only to specific company knowledge about the hazards, but also to industry-wide 'knowledge' about the trouble with lead, especially in the China supply chain where all these toy companies chose to manufacture their products (among other countries). Yet RC2, like most of the other companies in this case series was aware that lead (and other heavy metals) were a risk in the China supply chain, because they were already testing for them prior to the 2007 recalls.

Aftermath

Allegations and Denials

USCPSC staff allege that RC2 violated section 19(a)(1) of the Consumer Product Safety Act, 15 U.S.C. 2068(a)(1) and that it did this 'knowingly' (as defined in section 20(d) of the CPSCA, 15 U.S.C. 2069(d) (USCPSC Settlement Agreement 2009: 6). For these violations the company was fined US$1,250,000.00, payable within twenty (20) calendar days (USCPSC Settlement Agreement 2009: 6). RC2's response was to deny the allegations. It should be noted that Settlement Agreements do not constitute an admission by RC2, or a determination by the Commission that RC2 knowingly violated the CPSA (USCPSC Settlement Agreement 2009: 6).

There was much debate about the definition of 'knowing' in the Act. In her Statement accompanying the RC2 penalty Commissioner Northup said in part:

> In addition, going forward, I believe that the statutory definition of "knowing" used by this agency should receive further scrutiny. 15 U.S.C. § 2069(d) defines knowing under the CPSA to not only mean the "*having of actual knowledge*" (which is fine), but also "the presumed having of knowledge deemed to be possessed by a reasonable man who acts in the circumstances, including knowledge obtainable upon the exercise of due care to ascertain the truth of representations" (which is a barely intelligible standard of *mens rea*). As greater civil penalties are at stake in the future, some defendant will challenge this standard unless the agency does a far better job than it has to date of articulating what it means and applying it in a manner that is not merely conclusory. If the standard as written is too difficult to apply clearly and consistently, then it should be discarded in favour of a less tortured definition of knowing. The agency should act before a litigant forces us to do so, both to provide greater clarity to the regulated community as well as greater protection for our own future enforcement decisions (USCPSC Statement of Commissioner Northup, RC2 2009:2).

Penalties and Prosecutions

In agreeing to the settlement, RC2 denied that it knowingly violated federal law, as alleged by USCPSC staff (USCPSC Release 2009).When the degree of deviance and size of this penalty is compared with other lead offenders like Mattel Inc/Fisher-Price, it seems disproportionate to the offence. Perhaps RC2 Corporation paid a price (that is they were made an example of) for being the 'first cab off the rank' in terms of violating the lead paint ban in toys.

As USCPS's Commissioner Northup noted, some extenuating circumstances in RC2's case. These circumstances not only support the view that RC2 may have been treated more harshly than necessary, but they also indicate the company well understood the risk of lead in their supply chain. For clarity the comments Commissioner Northup made are presented in bullet-point form below. She said it is worth noting that:

- RC2 had a newly revised compliance system in place at the time these violations occurred, a fact for which the agency may not have given the company enough credit.

- RC2 *already* required its contract manufacturers to complete lead paint testing at independent certified labs and obtain certifications from their paint suppliers that all paints met applicable standards for lead levels (steps akin to what the CPSIA now requires of all companies).

- In addition, RC2 *already* conducted a good deal of final product testing of the kind envisioned by the CPSIA.

- When RC2 leadership in the United States learned of the problems at issue here, the company cut off the responsible contract manufacturer in China, cut off the paint supplier in Hong Kong for use by its other contract manufacturers, conducted an extensive internal investigation, took a very broad approach in determining the appropriate size of its recall—a fact that should not count against companies when the CPSC then decides the size of a civil penalty to be assessed—and instituted many new internal measures even beyond what the CPSIA requires well before agreeing to this settlement.

  Staff have also informed the commissioners that the company was very cooperative and in no way dismissive of agency inquiries when the problem surfaced. (USCPSC Statement of Commissioner Northup in relation to RC2, 2009).

When the settlement was announced, RC2 made the following statement:

> 'Today's settlement agreement announced by the U.S. Consumer Product Safety Commission not only resolves remaining issues from 2007 product recalls, but also reaffirms RC2's comprehensive program of preventive measures to safeguard its products. In instituting its Multi-Check Safety System, RC2 has created a strong protective barrier to provide parents added comfort and assure continued compliance with product safety standards around the globe. We're pleased that we've been able to resolve the issues in a manner that helps us continue to build parents' trust and assure children many hours of play with innovative, high-quality and safe toys (RC2 Statement 2009).

Tougher Standards

In the United States Quattleman and Rustin (2009: 38) refer to the passage of the Consumer Product Safety Improvement Act (CPSIA 2008) as 'the most significant outcome of the year of the recall …it enacts stricter rules and stiffer penalties for those companies that fail to comply with USCPSC standards'[as well as] increasing consumer protection legislation, particularly in the area of chldren's products'. Importantly, they note that it gives the regulator more power:

> The Act bolsters USCPSC enforcement procedures and powers through significant increases in civil fines, criminal penalties and ease of conviction. Now a director, officer or agent of a manufacturer, distributor or retailer can be convicted of violations of USCPSC stanards even if he or she has no knowledge of noncompliance with with the CPSIA from the commission. It establishes whistleblower protection and an online database of reported product hazards and increases state attorneys general enforcement power. Information on violations will be shared with other federal, state, local, or foreign governmental agencies. (Quattlebaum and Rustin 2009: 38).

In his testimony to a U.S. Senate Committee on the topic toy safety, UCPSC Deputy Commissioner Thomas Moore summed up the trouble with lead in children's toys:

> "As far as children's products such as jewellery or vinyl baby's bibs containing accessible lead are concerned, I wish that the Commission had the authority to find it unacceptable for any amount of lead to be in a children's product" (Moore 2007:6).

As noted by the New Zealand local paper, the *Nelson Mail* in August 2007, 'the spotlight needs also to be played on Western regulatory and testing regimes' (*Nelson Mail 2007).* The result was a flurry of bans (temporary and permanent) and new regulations (at least in developed countries) and mandatory testing by manufacturers. But mandatory testing procedures for heavy metals were already in place when these recalls occurred. The question still remains who is checking that the testing has been carried out, and that the certificates alleging that the toys are safe are authentic.

Four years after the recalls, on 19 October 2011, USCPSC's Chairman and Commissioners announced a new safety framework for children's products in the United States, describing it as 'a monumental day for the safety of America's children, and one that parents and grandparents have waited for years to happen' (USCPSC 2011: 1).

> Today, we took a giant step in transforming the children's product safety framework in this country from the reactive system that tens of millions of consumers still remember from the shocking "year of the recall" in 2007 into a new, proactive framework that Congress directed this agency to create and that the parents, grandparents, and children of this country expect and deserve (USCPSC 2011: 2).

The framework moves away from 'the old, reactive children's product safety system that failed to protect children or establish the United States as the global leader in product safety' (USCPSC 2011: 1)

The objective is to intercept toys at the point of manufacture and in the country of manufacture, thereby 'preventing a wave of children's products containing harmful cadmium (and lead) from reaching the hands of children in the United States' (USCPSC 2011: 2).The USCPSC reported overwhelming public support for such an approach, evidenced by:

> ...The thousands of parents, grandparents, and everyday consumers who took the time to reach out to all five Commissioners during the past week, and who urged us to vote yes and support these rules. We believe that such an unprecedented outpouring deserves some recognition, especially considering the fact that we have received more than ten-thousand (and still counting) letters from consumers in all 50 states. This unprecedented flood of letters from consumers asking us to support the third party testing rules has occurred over just the past seven days (USCPSC 2011: 2).

Counting the Cost

The recalls would come at considerable cost to RC2, as recorded in their 2007 10K filing:

> 'We recorded charges of US$17.6 million, net of tax, or US$0.84 per diluted share, for the year ended December 31, 2007, related to these recalls, based on the latest estimates of retailer inventory returns, consumer product replacement costs and shipping costs as of the date of this filing [31 December 2007] as well as the additional replacement costs or refunds, donations, notice charges, claims administration and legal fees related to the settlement of the class action lawsuits' (RC2 2007e: 7).

The negative consequences of a product recall for any company are noted by Raiborn et al (2009: 36).

> Product recalls cause companies to incur numerous additional direct expenses for reacquiring and disposing of the recalled products, issuing press releases and recall notices, increasing

advertising to compensate for negative publicity, legal costs, and raising estimates for sales returns

Reporting on the costs incurred by the company, Fetterman et al (2007), in *USA Today* says:

> RC2 'took a charge of US$4 million in recall costs in the second quarter of 2007, and expects another US$3-US$4 million in recall costs for the remainder of the year.

In announcing the proposed civil penalty settlement of US$1.5 million on 1 December 2009, then Commissioner Northup of the USCPSC commented on how the costs of a recall function as a deterrent:

> The tremendous costs associated with a voluntary or CPSC-ordered recall (over US$42 million in this case) provide a significant financial deterrent against companies taking a casual approach toward their product safety compliance responsibilities (Northup 2009: 2).

On the other hand Watson from the *Daily Finance* took an alternative viewpoint:

> 'In addition to its surprisingly low penalty of US$1.25 million, RC2 couldn't ask for better timing for the agreement. After all, a pre-holiday release of the settlement would have poured fresh salt on the scabbed wound of two years ago; by announcing after Christmas, the government spared RC2 what might have been a brutal blow in an already depressed holiday climate (Watson, *Daily Finance,* 29/12/2009).

This fine also appears to have served as a warning to others in the toy industry:

> 'The tremendous costs associated with a voluntary or CPSC-ordered recall (Over US$42 million in this case) provide a significant financial deterrent against companies taken a casual approach toward their product safety compliance responsibilities. In addition, civil penalties like the one assessed against RC2 serve as a further reputational disincentive against treating product

> safety responsibilities too lightly. I believe that the civil penalty assessed in this case and the other steps taken under pre-existing law sufficed to correct the situation adequately and will deter future lead paint violations in toys made by RC2' (USCPSC Statement of Commissioner Northup RC2, 2009).

What Commissioner Northup appears to suggest is that the size of this penalty may have threatened RC2's viability

> This entire incident has cost the company greatly. RC2's net income declined from more than US$34M in 2006 (the year before the recall) to a net loss of more than US$200K in 2008 (the year after the recall). Its number of employees declined from 830 at 2007 year end to 740 at 2008 year end, (USCPSC Statement of Commissioner Northup RC2, 2009).
>
> As we look to the future and to implementing the new law on lead in toys, I hope this agency will continue to apply penalties in a manner that creates proper incentives to produce safe products, but that does not cripple companies that operate lawfully the vast majority of the time. A civil penalty is not a death sentence. Fines are meant to deter non-compliance. Civil penalties are not meant to sink a company that is providing jobs or to unduly interfere with the future operations of a company that manufactures other safe products. (USCPSC Statement of Commissioner Northup 2009: 2)

Conclusion

This case has examined the key players and events leading up to and following the recall of millions of lead-contaminated toys by American company RC2 Corporation. It reveals a consistent pattern throughout all these cases, where the company was slow to disclose the hazard to the regulator, which subsequently delayed disclosure to consumers. In the early stages of the 'crisis' senior managers were accused of lying low and initially being reluctant to name up the Chinese manufacturing partners in their extended supply chain.

Although they issued a statement of regret some critics suggested that this fell short of either apologising or explaining what happened. The issue of what happened and the order in which events occurred would be revealed in 2009, two years after the recalls (2007) in the 'staff allegations' section of the U.S. Consumer Product Safety Commission's civil Settlement Agreement with the company. A compelling question for the media, politicians and consumers alike became what took so long? Once recalls did get under way, the wording of recall notices was sometimes confusing and in one instance was compounded by the fact that toxic and non-toxic toys were packaged together, causing consumers to ask which toys?

As part of a corrective strategy to reassure consumers, the company introduced a multi-check system, but rather than being a new initiative, this was simply a strengthening of processes that were already in place. The company compounded their problems by sending out a replacement 'gift' that was subsequently found to be lead-contaminated and had to be returned. In between recalls contaminated toys continued to circulate in formal and informal markets. When RC2 was finally prosecuted in 2009 (some two years after the main events) they denied that they 'knowingly' imported toxic toys. However, when comparing this company's conduct to that of other companies prosecuted for lead recalls (e.g. Mattel subsidiary Fisher-Price for Dora the Explorer™ and other toys and Schylling Inc for various spinning tops and pails), RC2 appears to have paid a heavy price for being the first cab off the rank for lead-contaminated recalls, both in terms of being made an example of and in terms of the size of the fine incurred.

Chapter 8: Case Study 2: The Trouble with Magnets

Rose Art/Mega Brands and Magnetix™

Introduction

Over a three year period between March 2006 and March 2008, two transnational corporations were involved in a series of global recalls that exposed the dangers of tiny powerful magnets dislodging from certain children's toys. The first was Canadian toy giant, Mega Bloks Canada (now Mega Brands Canada), who at the time was in the process of acquiring American company Rose Art Industries (now Mega Brands America), the original manufacturers of Magnetix™ building sets. The acquisition of Rose Art promised to give Mega Brands a leading edge in the construction toys market, but instead delivered a toy that caused the death of a little boy and more. The second was the world's largest toy manufacturer, American company Mattel Inc, makers of Polly Pocket™ play sets and other magnetic toys.

This case study focuses on the Mega Brand's recalls of Magnetix™ which occurred between March 2006 and March 2008. It also draws upon some of Mattel's experiences to illustrate how these two cases overlapped. At the time both companies were engaged in the business-as-usual process of getting toys to market from their respective manufacturing hubs in China. Between them the two companies recalled approximately 28 million magnetic toys worldwide.

The Toys

American company, Rose Art Industries, first launched Magnetix™ building sets in 2003, labelling them safe for children as young as three years old (Callahan, *The Chicago Tribune,* 6/5/2007a). Not until a boy died The popular toys typically consist of 20 to 200 plastic building pieces containing neodymium magnets and 20-100 steel bearing balls which can be connected together to form various geometric shapes and structures. The pieces come in a range of colours including red, yellow, blue and green, shaped in squares, triangles and cylinder rods (See USCPSC 2006; Reference.com 2012). Magastik™ and Magnetix™ Pre-School magnetic toys which were also subject to recall are animal, vehicle or building toys embedded with magnets that allow the parts to connect to large coloured metal balls.

In the year leading up to the magnet-related recalls, the toy was in demand, ranked by retail trade magazine, *TD Monthly,* as among the Top 10 most wanted building sets and a 'top seller on such leading websites as Amazon.com.KBToys.com and Walmart.com' (Ruggiero, *TD Monthly,* February 2005). The same year the toy made it onto *Toy Wishes* 'Hot Dozen List for 2005' and was 'nominated as Activity toy of the year by the Toy Industry Association (TIA) in 2005' (Clifford, *Daily Press,* 21/7/2007). The toys were sold globally through outlets like Wal-Mart, Target, Toys R Us and smaller specialty stores for betweenUS$20 and US$60, depending on the size of the set. On their website, Mega Brands notes just how popular the toy was at the time, attracting the following awards : '2006: Dr Toys Best Vacation toys, Dr Toy's 100 Best Children's products, Dr Toys 10 Best toys, iParenting Outstanding Products and The National Parenting Centre Seal of Approval Winner' and in 2007: the iParenting Best Products Call'. (Mega Brands, http://support.megabrands.com/en/customerservice/recallinfo/magnetix/testimonials_awards.php).

The Company

Mega Brands Inc (formerly Mega Bloks) is a Canadian toy giant headquartered in Montreal, Quebec Canada. It is the parent company of Mega Brands America –formerly Rose Art Industries (USCPSC Settlement Agreement Mega 2009: 2). First incorporated in 1967 as Ritvik Holdings, the company went public in 2002 as Mega Bloks Inc (Funding Universe.com 2007). Like many big toy companies, Mega Brands grew its business over time, through a series of strategic alliances, agreements and acquisitions including a co-branding agreement with Bandai Japan to develop and sell a range of construction toys (June 2003), licensing agreements with 4 Kids Entertainment for Teenage Mutant Ninja Turtles® (August 2003); Marvel Enterprises for their ever-popular super hero franchises (October 2004) and Original Appalachian Artworks Inc for Cabbage Patch Kids® (May 2005) (See Mega Bloks Press Releases 2003a; 2003b;2004;2005a).

So it was not surprising that in keeping with this strategy, on 15 June 2005 Mega Bloks initiated the acquisition of American toy company Rose Art Industries and the Magnetix™ brand (Mega Bloks 15/6/2005a), completing the US$315M deal (katz, *Bloomberg.com* 15/6/2005) on 26 July 2005 (Mega Bloks Press Release 26/7/2005b; Mega Q3 Report 2005: 3) taking full operational control of the company on 31 December 2005 (See USPSC Settlement Agreement Rose/Mega 2009: 1; Mega Bloks Q4 Report 2005). Under the terms of the agreement, two of Rose Art's owners, Jeffrey and Lawrence Rosen took up senior management positions within the Rose Art Division of the company and also as Directors on Mega Blok's board. In an earlier Press Release Mega Blok's described Rose Art as 'the number two brand in the US$1.8 billion arts and crafts category and the leader in magnetic building sets' (Mega Bloks 15/6/2005a: 1).

But rather than bolstering the Canadian toy giant's construction toy portfolio, the acquisition of American company Rose Art, would mark the beginning of three years of trouble for Mega Brands Canada and Magnetix™. Shortly after the first recall in March 2006, the Rosen's and Mega Brands would fall out over the trouble with magnets. In part, they disagreed over the question of who knew and when? But before this happened, a little boy died.

A little boy dies

On 24 November 2005, 20 month old Kenny Sweet from Redmond Washington in the United States, was rushed to hospital with what his parents thought was the stomach flu, but he died shortly afterwards of cardiac arrest. An autopsy revealed tiny magnets – smaller than the eraser on a pencil – had lodged in Kenny's intestine (one at the top and one at the bottom). The magnetic force was so great it connected both ends twisting his intestine and forcing deadly bacteria into his bloodstream (Esteban, KOMO News, 20/12/2005). Kenny swallowed nine cylindrical magnets from an older sibling's Magnetix® construction set. The medical diagnosis – *volvulus* [the bowel actually twists around on itself and causes an obstruction to the cavity – think of an empty sausage skin], *necrosis [*death of the tissue due to lack of blood-flow in this case] and *sepsis* [infection due to lack of oxygen and necrosis from the twisted bowel]. Surprisingly, Kenny's death would not trigger an immediate recall.

Precursors

Early Warnings and Near Misses

One of the earliest warnings about magnets dislodging from toys was 'logged by the USCPSC in March 2000, when an 8 year old American child died from intestinal injuries suffered as a result of swallowing magnets that dislodged from a broken fast-food meal' (Callahan, *The Chicago Tribune,* 6/5/2007a).Then in 2003, a six year old girl suffered

intestinal trauma after accidentally swallowing powerful magnetic jewellery brought at a state fair she was using to emulate a tongue piercing. Callahan, reports that according to USCPSC records, 'her surgeon alerted the USCPSC a month later (November 2003), to expect more of these types of injuries if products with such magnets were marketed to children' (*The Chicago Tribune*, 6/5/2007a).

From that time forward, there was a 'trail of warnings for magnets' (Callahan, *The Chicago Tribune,* 6/5/2007a) leading up to and following the death of Kenny Sweet on 24 November 2005. Some were received by the USCPSC one was expressed in the form of a letter to the editor of the journal *Radiology*, published in November 2004 (See Oestreich 2004). Others were for the same magnets in another company's toys (in this case Mattel's Polly Pocket™) involving early warnings, one in July 2005, and a second in early December 2005. When Rose Art filed its initial report of Kenny's death with the USCPSC on 14 December 2005, in a particularly repugnant example of blame-shifting the company allegedly 'attributed the release of magnets from the plastic pieces to unusually abusive play by the decedent's older siblings' (See USCPSC Settlement Agreement Mega/Rose 2009: 3).

In the interim, while the Regulator was negotiating with the company regarding a recall, another little boy became a victim to Magnetix. On 3 March, four year old Kyle Booke had a section of his intestines removed after swallowing dislodged magnets from a Magnetix™ construction set (Callahan, *The Chicago Tribune,* 7/5/2007b).Then on 28 March, just two days before the recall, the USCPSC received some long-awaited complaint and incident data from Rose Art/Mega, in the form of a *Consumer Calls/Warranty Claims Chart.* CPSC staff described this information, in the 'staff allegations' section of a Settlement Agreement with the company as 'lacking detail and critical information, rendering it effectively useless'. In response to a request for the source documents that informed the incident data, USCPSC staff were told that 'the company did not retain any source documents' (USCPSC Settlement

Mega/Rose 2009:4), but this was untrue. Regulatory staff would later discover – during further investigations in September 2006 - that Rose Art did in fact 'retain records of consumer complaints, with some level of detail' (USCPSC Settlement Rose/Mega 2009: 4). Even worse, the company had been collecting incident data since approximately January 2004 (USCPSC Settlement Agreement Mega/Rose 2009: 6).

Between February 2005 and Kenny's death on 24 November 2005, there were a series of incidents that ought to have acted as precautionary milestones, but seemed to go largely unacknowledged by both the company and the USCPSC.

Kiegan Willis (5 yrs) - May 2005

'In May 2005, Indiana play school owner, Sharon Grigsby phoned the USCPSC hotline to report that five year old Kiegan Willis required surgery to remove magnets that dislodged from a building set which he picked up and swallowed off the floor at the day care centre. She told reporters at the time that she had urged the Commission to "please do something" and warned "if this product is not recalled, children will die" (Callahan, *The Chicago Tribune,* 2007a). Approximately a week after that call a form letter arrived from the USCPSC, stating in part:

> Because of limited resources and the volume of incidents reported to us, only a few complaints may be selected for follow-up investigation at this time" (Callahan, *The Chicago Tribune,* 6/5/2007a).

Then as Callahan (2007a), notes 'Sixty days elapsed without any further word and no from the USCPSC and no recall announcement. According to a media report, 'the magnets that doctors removed from the pre-schooler's intestines – corroded globs in a hospital specimen jar – sat in a drawer in Grigsby's office waiting for an investigator to examine them.

> "I felt like I was pushed aside," Grigsby said. "I thought I was helping the next family." (Grigsby quoted in Callahan, *The Chicago Tribune,* 6/5/2007a).

Sadly, just six months after Sharon Grigsby's call to the USCPSC hotline, Kenny Sweet died and as Grigsby lamented at the time:

> "If they would have taken me seriously, that little boy [Kenny Sweet] would be alive." (Grigsby quoted in Callahan, *The Chicago Tribune,* 6/5/2007a).

Marcell McNeil: (age 3 years) May 2005

3 year old Marcell McNeil began complaining of flu-like symptoms on 1 May. Over the next 2 days his stomach ache became more severe and he vomited violently Doctors at Madigan Army Medical Center performed an emergency surgery to remove three magnets that had bonded across the walls of his intestine. They also repaired eight holes in his stomach, small intestine and colon that had been caused by the magnets rubbing together, and removed his appendix to guard against infection (as reported by KOMO News, 29/3/2006).

Then in July 2005, an event occurred that should have been a further wake-up call for the toy industry more widely, about the trouble with magnets. Mattel was also experiencing problems with the same magnets dislodging from their toys, resulting in the same injuries to children (as the Magnetix™ toys), but this would not become public knowledge for a further two years.

Paige Kostrzewski - (7 year old girl), July 2005

In July 2005 seven year old Paige Kostrzewski reportedly suffered intestinal injuries after swallowing the same types of magnets (as those in Magnetix™ building sets) that dislodged from a Mattel Polly Pocket™ play set. Apparently 'Paige placed two of the magnets between her lips so that her hands would be free to affix the rest of the

doll's clothes' [just as adults routinely do with nails or sewing pins] (CNN.com/US 15/8/2007). Paige's mother, Misty May describes what happened:

> Monday 11 July 2005 was payday for Misty May and right after work she went to the store and bought Polly Pocket Quik-Clik Boutique for her daughter Paige's collection. Two days later, Paige's mother notes 'she just started running around and not acting herself and by the next day she didn't want to eat' (Misty May quoted in Oppenheimer 2009: 228).

On the following Sunday Misty May took Paige to the emergency room of a local hospital, where an x-ray 'showed metal foreign objects in her body' (Oppenheimer 2009: 229), and she was transferred to Riley Children's Hospital for further tests. There it was discovered that 'the child's intestines had been punctured, causing toxins from her bowels to seep through her body…' (Oppenheimer 2009: 229).

Misty May contacted Gordon Tabor, an Indianapolis Attorney specialising in product liability cases and after a meeting he decided to take on the case (See Case Study 2 this series). Oppenheimer (2009: 232) says that 'shortly after the secret settlement with Paige Kostrzewski was finalised, just before Thanksgiving [November] 2006, Mattel and the USCPSC recalled 4.4 million Polly Pocket™ products after at least three children, including Paige suffered serious injuries. By then they knew of some 170 cases of these small magnets dislodging.

But Mattel settled this case behind closed doors, effectively waiving the victim's right to speak about the incident in the public domain. Awareness of this incident did not become public until two years later, at the time of Mattel's second (expanded) recall for Polly Pocket™ in August 2007 when the child's mother broke her silence out of a sense of frustration that the same toy that had injured her daughter two years earlier was still injuring children.

> "It [the recall for Polly Pocket™] should have been done two years ago, when my daughter almost died," she said (CNN 15/8/2007).

It is unclear whether Mattel shared information about this common hazard (rare earth magnets dislodging from toys) with competitor, Mega Brands (or vice versa), or indeed with the toy industry more widely, but it would be a good future strategy to consider such an early alert system between companies. It also begs the question as to when (or whether) the USCPSC knew about the July 2005 incident.

Information sharing of like hazards between companies in the toy industry sector is a must as a potential strategy for preventing these types of injuries to children. Companies must be more aware of what literature (especially medical) is out there on the nature of and dangers posed by the components they are using in children's toys. These early warnings and near misses (many of which were documented in the medical literature dating back several decades) could have acted as a precautionary milestone, triggering an alert to the industry more broadly and perhaps initiating a design response that could have minimised the problem. It would be disappointing if Rose/Mega Brand's trouble with magnets was seen as an opportunity for a competitive edge, rather than a moral obligation to prevent harm to children everywhere.

In an interview with CNN on 22 January, 2008, Mattel CEO Robert Eckert spoke about the Mega Brand's incident:

> Around Thanksgiving 2005, a child ingested a magnet from one of our competitors' toys and then ingested a second magnet. Unfortunately those magnets tried to find each other in the child's intestines, and that changed how the entire toy industry viewed these magnets. If they become dislodged, they can cause a real problem' (Eckert, quoted in Yang, CNN Money, 22/2/2008).

Following the first Polly Pocket™ recall by Mattel, after the Paige Kostrzewski case was settled, Oppenheimer (2009: 242) notes that 'Sim Osborn, representing the Bowmans [another child who ingested magnets that came loose from a sibling's Polly Pocket™ toy], filed a personal injury lawsuit against Mattel on 21 November, 2006, seeking damages for medical bills and for the emotional harm caused to the family from Devlin's ordeal'. Oppenheimer (2009 243) also relates how Osborn closely followed the recalls and how he observed, in hindsight that:

> Mattel kind of hid the second Polly Pocket recall in with the lead paint, and the media jumped on the lead paint. Looking at it in the abstract, it was pretty good PR on Mattel's part.

The above examples indicate that Rose Art/Mega Brands were not the only company for whom these magnets were a problem, although the Magnetix™ case did attract the most media attention, whereas the media focus for Mattel was more on lead-contaminated toys.

In the intervening months before their first recall the incidents continued to mount up for Rose Art/Mega Brands and the Magnetix™ brand:

William Finley: (4 years), August 2005

Media reports suggest that the dangerous relationship between magnets and toys was evident well before the Magnetix™ recall in March 2006. Morgenson, in *The New York Times,* 15/7/2007 reports that 'William Finley was almost four years old when he received a Magnetix™ building set for Christmas in 2004, but a few months later some of the magnets dislodged and William ingested them (Morgenson, *The New York Times,* 15/7/2007). Similarly, Callahan Callahan in *The Chicago Tribune,* 6/5/2007, reports that 'four year old William Finley underwent surgery after swallowing parts of his Magnetix™ building set in August 2005, four months prior to Kenny's

death in November 2005. After dismissing a burst appendix as the cause, Doctors discovered three tiny magnets in William's intestines. He suffered intestinal and abdominal scarring and injuries to other internal organs as well as his nervous system. Despite a letter from William's family to the manufacturer, warning of the problem, the company (Rose Art Industries) reportedly took no action, according to a KOMO4 News report, Seattle (Esteban 27/4/2006) which describes the events.

> On 31 October 2005, [the Finley's] sent Rose Art a letter telling them their son "ingested a magnet". The company signed for the letter three days later [in November], but the Finleys say Rose Art 'never responded'

Adam Finley, William's father, told KOMO4 News:

> "It made us feel a lot like my son didn't matter"
>
> Mega Bloks told me: "There was nothing in this letter that raised a red flag … only one magnet was swallowed … it was a minor incident"

Rose Art allegedly received the Finley's letter in November 2005, and Kenny died three weeks later. But Rose Art claimed that prior to Kenny's death they had no record of "a similar occurrence involving Magnetix™" (Esteban, KOMO4 News, 27/4/2006). But according to KOMO News, 'Rose Art insists the injuries were unavoidable… nothing they [Rose Art] can do replaces the need for adult supervision.

In fact, according to another source, the company (Rose Art Industries) allegedly denied ever receiving the Finley's letter:

> "After our son was terribly injured, we alerted the company by certified letter. They received our letter on 3 November 2005. Then, just a few weeks later, a family in Richmond Washington [Kenny Sweet's family] lost their son after he swallowed these

> magnets as well. We were astounded that the company later claimed on national television that they had no prior knowledge of these incidents, when in fact, they had our letter" (Sara Finley quoted in PR Newswire 10/4/2008 citing Original Source: Reiner, Simpson, Timmons & Slaughter).

According to an Online Lawyer Source (2008), 'In May 2008 the Finley's agreed to a settlement of US$1 million. This is not a large amount of money, given the potential costs of William's ongoing health care. The same source notes that 'according to the lawsuit filed by William's family, he will suffer constant intestinal problems and abdominal pain [and] will also need to be on a special diet for the rest of his life, the lawsuit claimed' (Online Lawyer Source 2008).

Rose Art Industries (now Mega Brands), the manufacturer of the Magnetix toy set, was accused of failing to provide adequate warnings regarding the dangers of its product. The label warned of a "choking hazard" but not the risk of intestinal perforations and blockages and even death if ingested. As noted by Beasley, *The Beasley Report,* 8/8/2007, it was alleged in the lawsuit brought by the Finley's that:

> "Even after being notified of the potential dangers of the toy, Rose Art failed to institute any clearer warning or a recall of the Magnetix toys. This inaction led to the serious injury of over 20 children nationwide and resulted in one death," the lawsuit stated. The money from William's settlement will be invested in an annuity, but Rose Art has agreed to pay the family $20,000 immediately to help them recover from the financial devastation caused by his injury (Beasley 2008: See also Online Lawyer Source 2008 at: <http://www.onlinelawyersource.com/news/magnetix-toy-injury.html>).

Then in November 2005, the unthinkable happened, and Kenny Sweet died.

Kenny Sweet – (22 mths), November 2005

'When Penny Sweet purchased two boxes of Magnetix™ toys from a supermarket for her son's tenth birthday in June [2005] she could never have imagined that six months later those toys would kill her 22 month old son' (American Association for Justice 2009: 16). This is how Kenny's Mom, Penny described the circumstances surrounding his death to consumer advocate 'Kids in Danger' , two years after his death in 2007:

> Kenny must have found the magnets in the carpet and swallowed them on two separate occasions. One group was about to pass through his bowel and the second group was entering in the beginning of his intestine. The first group had already been corroding, slowly releasing poisonous chemicals into his body. The second group magnetized to the first group causing a bulbous to form and gangrene to set in. The Emergency Room x-ray technician thought the metal object showing up on the x-ray was outside Kenny's body. If they had used a Magnetic Resolution Test or M.R.I., consequences would have been deadly causing him instant death and possibly blowing up the machine and harming people in the immediate area (Penny Sweet, as told to 'Kids in Danger' (2007) at: http://www.kidsindanger.org/family-voices/kenny/

But the warning on the toy that killed Kenny belied the true nature of deadly hazard lurking within:

> "It does say there is a choking hazard on here." Penny said. "Unfortunately they don't say it causes serious injury or death, which is the kind of warning they need to have on here" (Penny Sweet quoted in Esteban, KOMO News 2005).

One of the most disconcerting aspects of this case is what Penny Sweet was unaware of when Kenny died on 24 November 2005. She did not know that Marcell McNeil (May 2005), William Finley (August 2005) had suffered life-threatening injuries from Magnetix™ toys and that the company knew about these injuries before Kenny died (See Callahan, Investigative Journalism Series, *The Chicago Tribune,* 6/5/2007a).In May 2005, there were two further incidents when Timothy Kroell suffered injuries from a knock-off Magnetix™ toy (as far as the author can determine these toys were never recalled) and in the same month Indiana play school owner, Sharon Grigsby phoned the USCPSC hotline to report that 'a popular new toy, Magnetix™, nearly killed one of her pre-schoolers' exhorting the agency to "please do something" and warning "if this product is not recalled, children will die" (Callahan, *The Chicago Tribune,* 6/5/2007a).

Discovery and Detection

The trouble with magnets in Magnetix™ construction sets was first detected in early 2004 and became a serious issue for Rose Art/Mega Brands when Kenny Sweet died on 24 November 2005. Despite this, the company did not report to the USCPSC as they were required to do under a 24 hour reporting rule for product hazards. Instead of notifying the USCPSC of Kenny's death immediately, Rose Art/Mega Brands waited twenty one days advising the agency in an Interim Report on 15 December, later described by USCPSC staff as 'inadequate' (See USCPSC Settlement Agreement Mega Brands). On 20 December, KOMO4 News in America (Esteban 2005) broke the news of Kenny's death. But even as the story emerged, the injuries would continue to mount up as would the delays, with the first official recall not being announced until approximately three months later, on 31 March 2006.

Apologies and Regrets

Although the company expressed regret, their sincerity was tarnished by the insinuation that the fault somehow lay with the parents/carers of the victims, rather than with a poorly designed product.

> We were deeply saddened to learn of reports of children being harmed by ingesting small parts, as the father of four children and as a member of the family that helped build this business, I am personally committed to safe and creative play experiences for children who use our products. Magnetix™ products will remain on store shelves and we will continue to market the toys to families with appropriately aged children." (Vic Bertrand, Chief Operating Officer, Rose Art's parent company [Mega Bloks] cited in Press Release with no Mega Bloks letterhead, 30 March, 2006).

In their public statement the company also harnessed the comments of an 'expert' to support this view, noting that 'Professor Kimberly Thompson, Director of the Kids Risk Project at the Harvard School of Public Health and an expert on children's risks said:

> Parents and caregivers hold the keys to children's health and safety. Manufacturers provide warning labels on the boxes to help parents make informed choices when buying toys with and for children, but it is up to adults to use these warnings. She reminded adults that "toys offer many fun and educational opportunities when used properly but they are never a substitute for adult supervision" (Thompson quoted in Mega Brands Press Release 30/3/2006).

However, a Release issued by Reiner, Simpson, Timmons & Slaughter, Attorneys, through PR Newswire.com on 10 April 2006 took a different view:

> "We're concerned that RoseArt has not fully recognized the seriousness of this danger to children. Blaming the families for these tragedies is reprehensible. The fact is, the magnets in these toys too easily come loose and fall out, and will get into the hands of young children under the best parental supervision. (PR Newswire.com 2006 at http://www.prnewswire.com/news-releases/injured-calif-childs-family-alerted-toy-maker-before-death-of-another-child-according-to-reiner-simpson-timmons--slaughter-llp-69932352.html

The insinuations also extended to the company suggesting misuse of the toys:

> 'Today's report on the U.S. Consumer Product Safety Commission's (CPSC) announcement affirms our commitment to child safety by ensuring that our toys are used in a safe and proper manner. This Replacement Program provides households with children under the age of six the option to exchange Magnetix products for ones that are more suitable for young children. It does not involve products on retail shelves. There is no required action for retailers from the CPSC as part of this program' (Rose Art Media Release 31/3/2006 at PRNewswire http://www.prnewswire.com/news-releases/rose-art-industries-explains-replacement-program-for-magnetix-toys-outlines-commitment-to-child-safety-55608977.html .

Aside from being unfair, the wording 'it does not involve products on retail shelves' created confusion for retailers and consumers alike, and the question arose as to which toys?

The Recalls

Between 31 March 2006 and 17 March 2008, Mega Brands/Rose Art recalled approximately 9.6 million toys in total, including 8 million Magnetix™ building sets, and 2 million MagnaMan™ magnetic toy figures and Magtastik™ and Magnetix Jr. pre-school magnetic toys because of loosely attached magnets. The three recalls occurred almost a year apart, the first on 31 March 2006, the second on 2 April 2007 and the third on 3 March 2008 (See Table 8.1).

Table 8.1: Mega Brands Recalls

31 March 2006	First Recall	3.8 million boxes of Magnetix™ building sets recalled globally.
17 April 2007	Second Recall	Expanded recall of a further 4 million boxes of Magnetix™ building sets globally.
3 March 2008	Third Recall	Recall of 1.8 million MagnaMan™ magnetic action figures.

Source: USCPSC Release Notices 06-127 (31/3/2006); 07- (2/4/2007); 08- (3/3/2008).

Morgenson, in *The New York Times*, 15/7/2007, reports that 'even as the company's products were the subject of two voluntary recalls prompted by the US CPSC — one in March 2006 and another on April 17, 2007 — MEGA Brands allegedly delayed answering the government's requests for information, was uncooperative with the Commission and violated the terms of one of the recalls, the records show. Problematic or improperly labelled toys also remained on sale at major retailers well after they were supposed to have been off the shelves

Harold Chizick, director of promotional marketing and public relations at MEGA Brands, says the company has done right by consumers and regulators.

> "Obviously, the company wanted to make sure this was handled swiftly and properly. We did everything we were instructed to do", (Harold Chizick, Director of Promotional Marketing and Public Relations, MEGA Brands, quoted in Morgenson, *The New York Times,* 15/7/2007).

In the four months between Kenny Sweet's death on 24 November 2005, and Kyle Booke's hospitalisation for serious injuries in early 2006, 'more than three million Magnetix™ sets sat on store shelves and by the time the USCPSC announced a voluntary recall on 31 March 2006, the agency had received notice of 34 injuries to children caused by the toy, including one death and four series injuries (USCPSC Release 06-127, 31 March 2006). According to the American Association for Justice (AAJ 2009: 11), at least 15 of those injuries occurred *after* Kenny died.

But first let me return to the circumstances of the recalls and to the incidents and events that occurred in the intervening months between three successive recalls (Recall 1 - 31 March 2006; Recall 2 - 2 April 2007; and Recall 3 – 3 March 2008). The delays would continue, with the first recall not being announced until 31 March 2006, almost four months after Kenny's death.

The First Recall

On 31 March 2006, Rose Art Industries (by now a division of Mega Brands Canada) voluntarily recalled 3.8 million Magnetix™ building sets for children under the age of six, because magnets that dislodged from certain toys had killed one child and were injuring others. The recalled sets 'contained 20 to 200 plastic building pieces and 20 to 200 ½-inch diameter steel balls. The building pieces were red, yellow, blue and green, and shaped in 1.1/2-inch squares, 1-inch triangles and

cylinder rods. Some plastic building pieces had 'Magnetix' imprinted on them' (USCPSC Release 06127, 31/3/2006). Sold in a three year window of harm between September 2003 and March 2006, the toys were sold through a range of outlets including 'Wal-Mart, Target, Toys R Us, Fred Meyer, Design Science Toys Ltd, and other toy and arts and crafts stores for between US$20 and US$60 (USCPSC Release 06-127 31/3/2006). Consumers were advised to 'stop using the magnetic sets and return them, to Rose Art for a 'free replacement product suitable for young children under the age of six' (USCPSC Release 06-127 31/3/2006). But as Patricia Callahan reported in *The Chicago Tribune (7/5/2007c)*, the recall confused retailers and consumers alike

When Rose Art Industries announced this recall, the USCPSC also noted that 'three children age 3-8 suffered intestinal perforations requiring surgery and hospitalisation and a five year old child had aspirated two magnets that were surgically removed from his lung' (USCPSC Release 06-127 31/3/2006). But as the USCPSC would discover during an investigation in the months following the March recall, this was only the tip of the iceberg. What lay hidden in Rose Art's archives told a different story about the trouble with magnets in Magnetix™ building sets. The issue of what Rose Art told Mega Brands and when, remains a point of contention between the Rosen brothers (Rose Art America) and the Bertrand brothers (Mega Brands Canada). Callahan (6/5/2007a) in *The Chicago Tribune,* reports that 'Before a rival company, Mega Brands, bought Rose Art in July 2005, Rose Art executives disclosed those complaints to its soon-to-be parent company, court records show'. However I have been unable to find the supporting documents to corroborate this.

A more recent chronology of events (the USUSCPSC Settlement Agreement with the company in 2009), reveals that by the time Sharon Grigsby phoned the USCPSC hotline in May 2005, USCPC staff allege 'Rose Art had a trail of incident reports dating back as far as late 2003/early January 2004' (See USCPSC Settlement Agreement Mega

2009: 3). In addition, Callahan, *The Chicago Tribune,* 6/5/2007a) reports that shortly after Mega Brands acquired Rose Art [in July 2005], the USCPSC sent Grigsby's complaint to Mega Brand's Rose Art Division President and in a form letter accompanying the complaint, the USCPSC wrote that it forwards these types of complaints to manufacturers "because they often provide an early warning of potential safety problems"'.

> 'In a written response to questions from the *Tribune,* Mega Brands said it was unaware of the extent of the problem and didn't know that swallowed magnets could injure children until it learned of Kenny's death' (Callahan, *Chicago Tribune,* 6/5/2007a).

Nevertheless, had Mega Brands Canada undertaken rigorous due diligence during the acquisition process, they may have discovered that in acquiring Rose Art Industries they were also inheriting a potential product liability risk. At the very least, it can be said that Rose Art downplayed the hazard and at worst that they hid it from their potential buyers and also from the regulator.

In September 2006, the USCPSC would discover that the 34 incidents they knew about significantly understated the scale of the problem. Documents subsequently provided by Mega Brands Canada to the USCPSC on 1 December 2006 (on behalf of Rose Art) revealed the true extent of incidents and injuries. Received by the USCPSC a year after Kenny's death and nine months after the first recall (March 2006) these documents would reveal that Rose Art had been less than honest with the USCPSC. The company had, in fact, collected thousands of incident reports about Magnetix™ well prior to Kenny's death.

> Between January 2004 and 14 December 2005 (the date the company reported Kenny's death to the Regulator), Rose Art had received over 1100 complaints of magnets falling out or otherwise liberating from Magnetix™ and by the time the first

> recall was announced in March 2006 Rose Art had received **over** 1500 complaints about magnets falling out of Magnetix pieces (USCPSC Settlement Agreement Mega/Rose 2009: 6).

This was a shock to the regulator, and apparently also to Mega Brands Canada, who have consistently denied that Rose Art ever told them about the trouble with magnets.

Mega Brands, which bought Magnetix-maker Rose Art in July 2005, said it had to scour Rose Art's archives to find the information the CPSC was seeking

> We were astonished to learn that there had been 1,500 reports of magnets falling out of the product," Jennifer Zerczy, a Mega Brands attorney, said in a statement …… She added, "We have always acted in good faith and have sought to responsibly follow the terms of the recall and the expanded recall." (Callihan 19/6/2007)

During the March 2006 recall, the USCPSC took the opportunity to caution consumers to 'be sure to keep all small magnet parts out of the hands of children who mouth objects, especially children under three' (USCPSC Release 06-127 31/3/2006). But the recall notice was so awkwardly worded, that it became confusing for retailers and consumers alike. For instance, the reference to "*All*" Magnetix ™ magnetic building sets, when only certain sets were involved (e.g. X-treme Combo, Micro and Extreme sets). This was compounded by a statement in the recall notice that said 'the replacement program does *not* include sets at retail' (USCPSC Release 06-127, 31/3/2006).

As noted by Callahan, in *The Chicago Tribune* in May 2007:

> At issue is a confusing recall in which government regulators and the toy's manufacturer gave conflicting instructions on which versions of Magnetix were hazardous. The retailers decided to halt sales until the government and the company can clarify which boxes are safe (Callahan, *The Chicago Tribune*, 7/5/2007b).

Despite the fact that the toys were initially marketed to children under three, the company would continue to insist on labelling the recall as a 'replacement program' and inferring that the toys were always marketed to children over six years of age:

> Magnetix building sets are for children 6 years and up. There is a potential risk of magnets coming loose from some of the older sets. Please click on the link below for a list of product numbers that are affected by the recall and take part in our Product *Replacement* program.
> http://support.megabrands.com/en/customerservice/recallinfo/

The company (and sometimes also the media) continued to frame the issue of magnets dislodging as a 'choking' or 'small parts hazard'. The reality is that these toys are an intestinal perforation hazard (much more serious) and choking may be largely absent as an early warning signal (they are small, shiny and slide down easily). Nor was the issue misuse or abuse of the toy or its use by children under six (they were originally marketed to children 3+). Above all, this was not about lax parental supervision. At the time these magnets began dislodging from toys (e.g. in 2005) there would have been no expectation on the part of parents/cares to look out for these foreign objects and even if they did, they were so unlike foreign objects of the past (e.g. buttons, coins that passed through a child's system) that they could not know that these foreign objects harboured a deadly magnetic flux that could cause intestinal perforations and even death. This was a case of magnets

dislodging from poorly designed toys, which no amount of parental supervision could prevent.

In all probability Rose Art may have passed on knowledge about some of these incidents, but given the apparent scale of their non-disclosure to the USCPSC (revealed in September 2006), it is conceivable they never fully disclosed to Mega Brands the true scale of the problem. After all, this would likely have jeopardised the acquisition process, which began in June 2005, was settled in July 2005, and became fully operational in December 2005 (just a month after Kenny's death in November 2005). Nevertheless, as already noted, had MEGA Brands undertaken a rigorous due diligence process during the acquisition process, they may have discovered this potential product liability risk. At the very least it can be said that Rose Art downplayed the hazard. Getting to the bottom of what really happened is impossible, but the chronological timeline contained in the USCPSC staff allegations of the Settlement Agreement (USCPSC Settlement Agreement Mega 2009,) does provide some evidence from the regulator's perspective as to who knew and when and what was going on in the private domain between the Regulator and the company. (See Appendix 1 for full Time Line).

The recall became confusing for consumers and retailers alike, with the company insisting products currently on store shelves were not affected, as reported by Mayer, in *The Washington Post,* 1/4/2006:

> "We believe these products meet all federal and international safety standards and are safe and fun for kids age 6 and older," said company spokeswoman Jennifer Zerczy. "If you look at the package, it very clearly is labelled for children 6 and over, and there is a small parts warning [for under 3's] on the package as well."

Inherent in this message is the notion that the warning label on this toy satisfactorily communicates the age-appropriateness of the toy [6+] and the hazard within [e.g. labelled as a 'choking' or small parts hazard for children under 3]. It also shifts the onus of responsibility from the manufacturer to parents, which in this case is unjustified. The responsibility for poor design lies with the manufacturer (the parent company headquartered in the west rather than the manufacturer in China).

These toys do not represent a typical choking hazard (e.g., lodge in the windpipe and obstruct the airway). They represent a far more serious threat – they are more likely to slide down a child's throat without choking, traverse the oesophagus, and transfer into the deeper recesses of the body, there attaching to one another and pinching the human tissue between them, causing bowel obstruction, twisting and perforation of the intestines, releasing toxins into the body. Children swallowed magnets from domestic and community play settings, mostly 'eating' them unobserved. In many instances, the typical choking alert for parents was absent. As noted previously, this is compounded by delayed, often non-specific symptoms (flu-like, a stomach-ache) that can lead to misdiagnosis and delays in treatment (See Chapter 5, the trouble with magnets).

Between the first recall (March 2006) and the second (April 2007), other children suffered serious injuries from magnets dislodging from Magnetix™ toys, as reported by Callahan, in *The Chicago Tribune:*

- In the summer of 2006, seven year old D.J. Hyman from Illinois suffered life-threatening injuries after swallowing Magnetix magnets

- In the fall of 2006, six year old Owen Howman of Ashland Ohio suffered serious intestinal injuries after Magnetix perforated his bowel and spilled deadly bacterial into his abdomen

By April 2007, the USCPSC was warning the public about the growing problem posed by small magnets in toys (American Association for Justice 2009: 10). The Agency reported it had received hundreds of complaints and knew of more than 30 cases in which children required emergency surgery. Then in mid April 2007, Mega Brands and the USCPSC expanded the early recall.

Second Recall: April 2007

On 19 April 2007, Mega Brands recalled a further 4 million boxes of Magnetix™ after more than 25 children suffered intestinal injuries requiring surgery. This recall included 'users of all ages'. According to a USCPSC Recall Alert, 'the toys were sold by 'mass merchants and other toy and arts and crafts stores…' (USCPSC Release 07-164 19/4/2007)

As with the earlier recall, consumers were advised to 'stop using the recalled magnetic sets immediately and contact MEGA Brands for a comparable replacement toy (USCPSC Release 07-164 19/4/2007). In addition to the dangers to children under six, this recall notice also warned consumers that 'although the hazard was initially thought to be a problem primarily for children younger than six, it had since learned that at least ten injuries involved children between the ages of 6 and 11 years old (USCPSC Release 07-164 19/4/2007).

Once again the recall notice created confusion stating as it did that 'The recall includes <u>all</u> sets, *except newer Magnetix sets sold since March 31, 2006* that are *age-labelled 6+* and sets that contain the following caution label:

> CAUTION: Do not ingest or inhale magnets. Attraction of magnets in the body may cause serious injury and require immediate medical care.

Further, the recall notice stated that 'MEGA Brands advises that sets currently at retail better retain magnets due to improved quality control, material and design changes. These products are *not* included in the recall' (USCPSC Release 07-164 19/04/07).

At the time the Acting Chair of the USCPSC expressed concern about both the scale of the hazard and the reactionary nature of the recall:

> …the Commission is 'deeply concerned about the dangers that small, powerful magnets can pose to children if swallowed. In order for any product recall to be effective in protecting consumers, we must significantly reduce incidents and injuries from occurring *after* the recall is announced' (USCPSC Release - 07-164 19/4/2007).

The recall alert also noted 'Mega Brands has been co-operative in this *expanded* recall' (USCPSC Release 07-164 19/4/2007), implying that this may not have been the situation with the earlier recall. But the fact that the USCPSC had to subpoena the company for detailed incident and injury data would cast doubt over this assertion, however this would not become public until almost two years later, when the USCPSC announced a civil penalty and the company incurred a fine of US$1.25m for importing unsafe toys into the stream of commerce. Commenting on the recall events, Callahan and Falk , in *The Chicago Tribune* in 19/7/2007) report that 'the two recalls that followed Kenny's death, one on 31 March 2006 and a second expanded recall on 19 April 2007 'were so confusing that consumers and retailers could not tell which versions of the toy were potentially deadly'.

Also, far from being voluntary, the USCPSC 'had to go through a lengthy court process to force a recall'

> To describe Mega Brand's first two recalls as *voluntary* as that term is understood by the reading public (the main audience for recall notices) is at the very least misleading. Given that the

> USCPSC had to subpoena the incident information critical to assessing the true scale of the harm and go through a lengthy court process to force a recall, it is at the very least misleading to then label those recalls *voluntary* (Callahan and Falk, *The Chicago Tribune,* 19/7/2007).

In the same article, Callahan and Falk, in *The Chicago Tribune,* 19/7/2007 report that during a U.S. Senate investigation the USCPSC told Senator Durbin that

> after the USCPSC expanded the Magnetix™ recall in April to cover another 4 million boxes, Mega Brands immediately violated the terms of the recall – relabelling older boxes to suggest they weren't the recalled versions and rewriting recall posters for stores in ways that strayed from the agreed upon message.

In its report on unsafe products, the American Association for Justice (2009: 10) captures the trouble with magnets, a concern that still resonates today:

> '...experts and physicians worry that regulators are still not up to speed with regard to the dangers magnets can pose. For instance, magnetic jewellery has caused more than two dozen injuries in recent years, yet has not been subject to any further regulation from the USCPSC' (American Association for Justice 2009: 10).

Mega Bloks announced it had strengthened the toy and it was now safe to sell once again, but there was no way for consumers to tell which sets of Magnetix were improved. Retailers were confused and the unsafe toys often remained on store shelves with magnets apparently falling out of both old and 'improved' versions.

Following the April recall, Mega Brands advised that sets currently at retail (i.e. post March 2007), "better retain magnets due to improved quality control, material and design changes" and that these products were not included in the expanded recall of Magnetix Magnetic building sets on April 19, 2007. (USCPSC Release 07-164, 19/4/07). Then in June 2007, MEGA Brands CEO, Marc Bertrand told shareholders at the company's annual meeting:

> The product is 100% secure," "We took definitive action so Magnetix would be a long-term brand in the market." (National Post Canada, 8/6/2007).

Mattel too, was letting consumers know how they were addressing the trouble with magnets dislodging. In Mattel's case, Jim Walter, Senior Vice President for worldwide Quality Assurance explained modifications to the way in which Mattel now attaches magnets in its toys:

> Since our November 2006 magnet-related recall we have implemented more robust magnet retention systems and more rigorous testing. We are exercising caution and have expanded the list of recalled magnetic toys due to potential safety risks associated with toys that might have loose magnets" (Mattel Inc Press Release 14/8/2007).

The Chinese response to the recalls (especially lead) was to revoke the licences of over 600 toy companies and promise that "the overall quality of Chinese-made toys [would] be further improved and safety fully guaranteed" (Xinhua News, 14/1/2008). However, as Pu Changcheng, Deputy Director of the State Administration for Quality Supervision, Inspection and Quarantine (AQSIQ) rightly noted 'several toy recalls in 2007 were either due to design flaws or change of standards by foreign importers' (Pu Changcheng, quoted in Guodong, *Xinhua News,* 14/1/2008).

To assist in clarifying which toys, MEGA Brands Inc Canada and the staff of the USCPSC developed a guide to assist consumers to identify Magnetix™ buildings sets that had been recalled. Consumers who did have the original box were advised to look for a Magnet Caution Label (not to be confused with the Small Parts Warning Label) also on the box. Consumers were advised 'If you *no longer have the box that your Magnetix set came in*, look closely at the rods included in your set(s). Disregard the colour of the rod – it is not an indicator as to recall status' (Source: USCPSC (Undated). *A Consumer's Guide to the Magnetix Building Set Recall*).

Consumers were instructed not to use Magnetix™ sets included in the recall and to contact MEGA Brands for a replacement toy on a hotline number provided. The USCPSC further warned, in the Consumer's Guide, that 'even if you have *newer* Magnetix™ sets that are not subject to recall, be on guard against the possibility of magnets falling out, noting the following important points:

- children under six should not be playing with these sets,
- make sure your children know about the hazard of swallowing magnets,
- have them use a play area where any magnets that fall out can be found easily and swept up so that younger children do not swallow them,
- Loose magnets should be taken away from children immediately.

Consumers were also asked to report incidents of loose magnets to the USCPSC hotline number, provided on the website. Overall this seemed a lot of information for consumers to assimilate and act upon, and again it was a source of confusion.

In talking to the media about the issue, 'Toymaker Rose Art and parent company Mega Bloks said they didn't think there was a problem with the original toy. But KOMO News asked the toy manufacturer to show them the difference [between the recalled and new versions of the toy] however reportedly, 'Rose Art turned them down' and according to KOMO News:

> The company added glue to the toys and enhanced what they called 'magnet welding' They also changed the recommended age for the toy from 3 and up to 6 and up. (Esteban, KOMO News, 2006).

In the intervening months between the second recall (in April 2007) and the third recall (in March 2008), two more children sustained injuries from Magnetix™ building sets, once again, reported by Callahan, in *The Chicago Tribune*::

- Shorn Thornsberry, author of the blog Magnets can Kill purchased a Sir Lancelot Magna Man Action figure Two of her children noticed that magnets fell out of the neck of the toy within minutes of opening the package [this toy is finally recalled in March 2008]

- Three year old Tegan Leisy had eight inches of his intestine removed after swallowing magnets from a Magnetix set. All the Magnetix™ in the Leisy home were purchased after the March 2006 recall, the family's attorney said

Despite the initiatives to make sure these magnets did not dislodge from their products, the company suffered a third and final recall in March 2008, this time for a different product in the company's range.

The Third Recall – 17 March 2008

On 17 March 2008, Mega Brands announced a third global recall, this time for MagnaMan™ Action Figures and Magtastik™ and Magnetix ™ Jr. Pre-School Magnetic toys, due to the aspiration and intestinal hazards posed by ingested magnets (Mega Brands Press Release 17 March, 2008). A Mega Brand's media release (Mega Brands 17/3/ 2008: 1) notes that at the time of this recall the company and the regulator were 'aware of 44 reports in the United States of magnets coming loose, including one report of a three year old boy receiving medical treatment to remove a magnet from his nose and one report of an 18 month old found with a single magnet in his mouth, which was not swallowed' (Mega Brands Press Release 2008: 1).

The process of return was the same, 'stop using the recalled toys and return them to MEGA Brands for a free replacement toy' (Mega Brands Press Release 2008: 1). Again, the company labelled the process as '…this voluntary recall and 'replacement program', adding the following paragraph which was confusing for consumers and again raised the question which toys?

> The design of the product lines affected by these recalls predates the redesign of the Magnetix™ building system by MEGA brands in 2006. MagnaMan™ and Magnetix™ Jr. sets are no longer in production' (MEGA Brands Press Release 2008: 1).

Even after MEGA Brands announced they had strengthened the toy in December 2005 and that it was now safe to sell once again, unsafe toys often remained on stores shelves.

Toys Still on Shelves

In her testimony to the U.S. Senate Committee Illinois Attorney-General, Lisa Madigan, said she alerted the USCPSC to the hazards of Magnetix™ knock-off toys in May 2005, but despite Timothy Kroell's injuries these toys were never recalled.

> As we visited stores to check for recalled Magnetix, we quickly found knockoff Magnetix toys at several dollar stores. These knockoffs are the same toys. The only difference is that they are manufactured by a different manufacturer, so it stands to reason that these same small, powerful magnets in virtually identical toys may pose the same threats to children. We sent a number of these toys to CPSC on May 24, and we asked them to consider recalling these products as well (US Senate Committee on Appropriations 2008: 8)

As well, three consumers were so concerned about defective Magnetix™ toys that they sent pieces of their defective sets to the USCPSC, even before Sharon Grigsby, the owner of an Indiana play centre, alerted the Commission to the problem. On 10 May 2008, Record investigators in Glasgow 'found a 70-piece set of Magnetix on sale at a Toys R Us store, the set dates back to 2006 and is of the old design (Stewart 2008)

Remedies and Solutions

Both Mega Brands and Mattel described how they enhanced the safety of their toys. For instance, Mega Brands officials said 'the company added glue and increased factory inspections shortly after it learned of Kenny's death [in November 2005] and later redesigned the toy' (Callahan, *The Chicago Tribune*, 7/5/2007d) In a written statement in response to KOMO News questions regarding the safety of new toy versions on shelves, Rose Art said:

> the new product 'has been enhanced three separate times; the first time in late summer, that was right after Mega Bloks acquired Rose Art. The company says quality enhancements are standard procedure for them after acquisitions' (Esteban, KOMONews 4, 2006).

In a 2008 interview with CNN, Mattel's CEO said the company [Mattel] began improving the way in which they attached magnets to their toys, in January 2006, following the death of Kenny Sweet (see Yang, CNNMoney, 22/1/2008). However, he made no mention of the fact that Mattel knew they had a problem with the same type of magnets falling out of their toys, the first incident occurring in July 2005 (four months before Kenny's death in November) and the second in December 2005 (just a month later. The inference here is that Kenny's death was the reason Mattel improved the way in which they attached magnets to their toys, but it begs the question as to why the injuries sustained by a seven year old girl in July 2005 from one of their own toys was not sufficient to trigger this action.

Despite the solutions (by Mega Brands and Mattel) whilst these powerful magnets are incorporated in children's toys, the risks remains for them to potentially dislodge. Oestreich (2009: 146) sums up what that risk looks like for children:

> These magnets often (I believe usually) attract each other across bowel walls, especially once they are beyond the stomach. Many abdominal complications have been found surgically (or occasionally endoscopically) often severe, despite relatively mild clinical symptoms, which often have delayed seeking medical help and then delayed radiographing or ultrasound imaging (Oestreich 2009: 146)

Timelines and Time Lags

On 1 February 2006, Mega Brands submitted a full report to the USCPSC, but according to the USCPSC Settlement Agreement, this 'lacked incident data and product specificity'. At the time Rose Art told the USCPSC that the company did not retain detailed complaint or incident records. But this was untrue. The company had in fact collected extensive incident and injury data, but this was not declared in the company's initial report on 14 December. This made it virtually impossible for the USCPSC to assess the true nature and scale of the problem. When Rose Art eventually filed its initial report of Kenny's death with the USCPSC on 14 December 2005, in a particularly repugnant example of blame-shifting the company allegedly 'attributed the release of magnets from the plastic pieces to unusually abusive play by the decedent's older siblings (See USCPSC Settlement Agreement Mega/Rose 2009: 3).

Around Christmas 2005, 'Jonathon Midgett the self-described "toy scientist" at the USCPSC urged the agency to recall the toy. According to a media report, 'the staff of the USCPSC first met formally to discuss the possibility of a recall more than two months after Midgett's recommendation (Callahan, *The Chicago Tribune,* 7/5/2007a). Behind the scenes, the USCPSC continued to work hard to obtain incident data from Rose Art, data the company initially claimed it did not have. In the meantime the injuries continued to mount up.

Whilst the U.S. regulator continued to press Mega Brands/Rose Art for incident and injury data, another child became a victim to Magnetix™. On 3 March 2006 'four year old Kyle Booke had a section of his intestines removed after swallowing dislodged magnets from a Magnetix™ construction set' (Callahan, *The Chicago Tribune.* 7/5/2007b;American Association Of Justice 2009:11). On the other side of the world, in Australia, in April 2006, 'a nine year old boy swallowed magnets from a Magnetix™ building set, causing perforation and

twisting of his intestines, blockage of his bowel and internal bleeding, resulting in four hours of surgery and follow-up treatment that was still ongoing four months later (New South Wales Fair Trading 2007).

Then on 28 March 2006, just two days before the first official recall, the USCPSC received some long-awaited complaint and incident data from the company, ' in the form of a Consumer Calls/Warranty Claims Chart' that USCPSC staff would later describe as 'lacking detail and critical information, rendering it effectively useless' (USCPSC Settlement Agreement Mega/Rose 2009:4). When USCPSC requested the documents that informed the incident data, they were told 'the company did not retain any source documents' (USCPSC Settlement Mega Brands America 2009:4). This would prove to be untrue and nearly six months after the first recall, USPSC investigators would discover a volume of incident and injury data that would shock them.

What this data revealed was that Rose Art had allegedly been collecting incident data since approximately late 2003/ January 2004 (USCPSC Settlement Agreement Mega Brands America 2009:6). The USCPSC also learned that the company had received at least one report of an injury due to magnet ingestion prior to Kenny's death on 24 November 2005. In actual fact by the time Mega Brands/Rose Art announced the first recall on 31 March 2006, the company had received 'more than 1,500 complaints of magnets falling out of plastic pieces in more than 65 different models of Magnetix™.' (USCPSC Media Release 14/4/2009). Despite the recall, and the corrective action taken to improve the way in which magnets were attached, the incidents and injuries continued to mount up, leading up to further recalls (April 2007; March 2008) as noted above.

Political and Legal Influences

Enquiries and Inquisitions

An investigation by the *Chicago Tribune,* which led to a U.S. Senate Hearing in May 2007, 'uncovered red flags the federal safety agency missed about popular Magnetix™ toys shedding dangerous magnets – warnings that presaged the death of a suburban Seattle toddler and the serious intestinal injuries of more than two dozen other children' (Callahan and Falks, *Chicago Tribune* 19/6/2007).

In between the second (April 2007), and third recalls (March 2008), a series of US Senate Committee Hearings were held on the topic of toy safety. On 18 June 2007, Senator Robert Durbin referring to the trouble with magnets in Magnetix™ building sets highlighted the company's non-compliance with the USCPSC.

> The company did everything in its power to derail the Commission's effort to take the product off the shelf.
>
> When a company is selling dangerous products in America and refuses to co-operate with the USCPSC, we have few laws and few tools to use to protect consumers" (Senator Durbin quoted in US Senate Committee on Appropriations 2008).

Reporting in the *Chicago Tribune,* Callahan and Falk 19/6/2007, allege that 'Durbin's subsequent investigation found that the company repeatedly fought the government's attempts to recall the toy, issued a tardy response to a safety commission subpoena and violated the terms of the recall agreement when it was finally struck'.

Law Suits and Class Actions

According to a report in *The Chicago Tribune* (Callahan 7/5/2007c), 'Mega Brands officials alleged in a lawsuit that Jeffrey and Lawrence Rosen - the brothers who sold them Rose Art, then led that division after the merger - didn't fix the problems with the dangerous toy in part because they didn't want to jeopardize personal multimillion-dollar payouts tied to profit targets. As well, according to Callahan:

> in a statement, the Rosen family denied Mega Brands' allegations, saying that "prior to its acquisition by Mega Brands" the family "acted in a thorough and responsible manner with regard to the manufacture, safety, quality control and sale of its Magnetix toy products."

The Rosens in a court filing pointed to a May 2005 letter from Timothy Kroell's attorney regarding the intestinal injuries he received after swallowing Magnetix pieces and their disclosure of customer complaints as evidence that Mega Brands knew of these issues before the merger yet "never made any suggestions for changes in the way the business operated." (Callahan, *The Chicago Tribune*, 7/5/2007c).

In relation to a class action lawsuit, in its Report to Shareholders (Mega Brands Q2 2011:25), the company declared that:

> In April 2008, a class action lawsuit was filed against the Corporation in the U.S. District Court …. on behalf of all persons who purchased and/or received magnetic toys in the United States that were the subject of product recalls by the Corporation in March 2006, April 2007 and March 2008. While the Corporation believes it has meritorious defences against this claim, it nevertheless has agreed to settle the case without admitting any liability in order to avoid further litigation expense.

Casey and Zamisak, in an article in *The Wall Street Journal,* 15/8/2007 note that in October 2006:

> MEGA Brands (which had inherited the problem of Magnetix when it purchased Rose Art Industries Inc) agreed to an out-of-court settlement of US$13.5 million for 14 families of young children harmed by the building sets. Among the settled cases were those of a four year old whose injuries required the removal of a portion of his intestine and a three year old who had undergone surgery to repair holes in his stomach, intestine and colon. The case of the toddler Kenny was also settled

Aftermath

Penalties and Prosecutions

In 2009, the USCPSC and Mega Brands America (formerly Rose Art Industries Inc) agreed to a fine of US$1.1 million to settle allegations that Mega Brands America and Rose Art failed to provide the government with timely information about the dangers to children of Magnetix™ magnetic building sets, as required under federal law. In agreeing to settle the matter Mega Brands America (formerly Rose Art Industries) and parent company, Mega Brands Inc of Montreal Canada contended that:

- Mega Brands Inc Canada did not know of the Magnetix™ defect at the time if acquired Rose Art, and
- Rose Art's prior owners never advised Mega Brands Canada of the problems associated with Magnetix™.

As noted in the USCPSC Settlement Agreement with the company, 'all of the products subject to the Settlement were made by Rose Art between 2003 and 2005. Although 'Magnetix sets continued to be manufactured after 2005, due to manufacturing and design improvements instituted by Mega Brands America, these sets were not

the subject of the allegations set forth in the USCPSC Settlement Agreement' (USCPSC SA 2009: 18696, Note 1).

When the toys were first introduced by Rose Art in 2003 they were labelled as appropriate for children aged 3+ (Callahan 2007a). Later, as the nature and scale of the problem became more apparent in the form of a series of serious incidents, injuries and one known death, the company increased this age recommendation to 6+, adding a small parts ingestion warning for children under the age of three years old.

Tougher Standards

Following the magnet-related toy recalls tougher standards were introduced for magnets in children's toys. This typically took the form of a warning label. It also left the issue of magnets in jewellery, loosely attached magnets in desk toys and non-magnetic hazards (e.g. button cell batteries) largely unaddressed:

Some advocates expressed concern about the 'them' and 'us' approach to securing greater protection from magnets for children. For instance, as reported by Callahan, in *The Chicago Tribune* (7/5/2007a)

> Nancy Cowles (Executive Director of the Chicago-based non-profit *Kids in Danger,* is among the advocates pressing for tougher safety standards for toys with magnets. Commenting on the manufacturer-dominated process of negotiating the safety requirements, Cowles said: "It's that tension of us trying to make the safety standard as strong as possible and them trying to make it as weak as possible (Nancy Cowles, Executive Director, Kids in Danger, quoted in Callahan, *Chicago Tribune,* 7/5/2007 Not Until a Boy Died).

In Australia, the Queensland Injury Surveillance Unit (Swaminathan, Baker and Scott 2010) were critical of the warning label approach to prevention:

> 'Currently, the ACCC [Australian Competition and Consumer Commission] is relying on warning labels to inform parents at point of purchase and act accordingly to protect children. Warnings of this nature have potentially little impact because once the toy is removed from the packaging, the warning is no longer apparent. Whilst parents may read a warning message at point of purchase, there is little to suggest that this will translate into preventative behaviour once the product is in the home. Parents with children of different ages may purchase the product for an older child, but not consider that their younger child could access the toy and ingest it or misuse it' (Swaminathan, Baker and Scott 2010).

The Queensland Industry Surveillance Unit (QISU) made some very good recommendations regarding magnetic foreign bodies that have currency for other jurisdictions too and are worth reiterating here:

1. The ACCC consider broadening their current focus to address risk of injury due to non-toy magnets as well as toy magnets.

2. Consideration be given to limiting the availability of strong magnets in all products likely to be used in a domestic setting.

3. Warning labels for ingestion of small parts be revised to include children 5 years and under

4. Industry, consumers and clinicians be educated regarding the risk of magnet related injury

5. Development of a national reporting and standardised data collection system for product related injury to enable accurate

understanding of risk factors, incidence and prevalence of product related injury

6. Consumers, clinicians and industry be encouraged to report an injury or incident associated with a consumer product to the relevant product safety unit in their state or territory or the ACCC.

Counting the Cost

In its 2010 Report to Shareholders (Mega Brands 2010: 29), the company notes the significant costs associated with the recall of Magnetix™:

> As a result of the voluntary recall and replacement campaign with the CPSC announced on March 31 2006 and expanded on April 19 2007 in connection with Magnetix™ building sets and the ensuing publicity and product liability lawsuits and claims against the Corporation, the cost of insurance coverage for these products manufactured before 1 May 2006 was prohibitive and as such, the Corporation is not insured for incidents occurring after December 1, 2006 for Magnetix™ products manufactured before May 1 2006. Consequently, the unfavourable disposition of any self-insured Magnetix related litigation could have a material adverse effect on the financial condition and results of operations of the Corporation (Mega Brands 2010: 29).

In addition, the company also noted how it was 'primarily self-insured for Magnetix products manufactured before May 1 2006 and against certain product-related incidents occurring on or after December 1, 2006' (Mega Brands Q3 2010: 27).

Posturing and Repositioning

In 2007, Mega Brands re-designed the toys, enlarging the size of the toy pieces, so although magnets were still embedded in the plastic pieces, their increased size meant the pieces themselves could not be swallowed intact. However this will not prevent the magnets from dislodging. As reported in *The Wall Street Journal* (Casey 31/10/2008), 'by Christmas 2008 Mega Brands had relaunched Magnetix™ construction sets under a new name, MagNext™, opting to mark their packaging with the brand Mega Bloks, the company building blocks brand that had no previous association with its magnet toys'.

As Harold Chizick, Vice President of Marketing explained at the time:

> "We needed to rebrand". Obviously with the recalls and what was happening in the marketplace, we changed the name to MagNext". (Mr. Chizick, Vice President Marketing, Mega Brands, quoted in Casey, *The Wall Street Journal*, 31/10/ 2008).

By June 2011, Canadian Industry Magazine *Toys & Games* (20/3/2011) was reporting that 'Mega Brands was back in the black' after enduring several years of debt stemming from and dating back to recalls of its Magnetix™ toys'.

Ironically, in 2012, Mega Brands and Mattel Inc (the two companies involved in magnet-related recalls) have joined forces under what has been described as 'a new worldwide multi-year licensing partnership… to develop Mega Bloks construction toy collections featuring Barbie™ and Hot Wheels™, two of Mattel's (and the world's) most iconic brands' (cited in Toys and Games Magazine, 29/3/2012 Available at: http://toysandgamesmagazine.ca/17670/mega-brands-to-develop-barbie-and-hot-wheels-collections/).

Conclusion

This case reveals how time lags played a big part in exposing children to hazardous magnetic toys for much longer periods than necessary. Slow disclosure, partial disclosure and non-disclosure were all aspects of this case. Despite narratives to the contrary in the public domain, this company did not co-operate with the Regulator. Instead they concealed the true nature of the hazard, by hiding significant incident and injury data, or by drip-feeding data to the regulator information that was critical for assessing the true nature and scale of the hazard, thereby protecting children.

By the time of the first recall, Rose Art (the American company who originally manufactured the toys) was incorporated under the flagship of Canadian toy giant Mega Brands who have continued to maintain that during the acquisition process Rose Art did not reveal to them the incident and injury data that Mega Brands (Canada) subsequently provided to the USCPSC, under subpoena, months after the first official recall. The information was proffered to the USCPSC in various forms, all of which were inadequate and when it was finally obtained by subpoena, both Mega Brands (the parent company of Rose Art) and the USCPSC were shocked by the number of incidents, some of which dated back to the year in which the toys were first released (2003).

Despite the rhetoric that somehow lax parental supervision was a factor in children being injured by these magnets, and in one case that rough play by siblings may have caused the magnets to dislodge, the problem of magnets migrating from Magnetix™ building sets (and Mattel's Polly Pocket™ play sets) was eventually attributed to poorly designed toys. The majority of children swallowed loose magnets they found on the floor in domestic and community play settings and a few swallowed Magnetix™ plastic pieces intact, with the magnets embedded in them.

What this case reveals is a process by which companies, throughout different stages of the crisis, resorted to slow disclosure, non-disclosure, partial disclosure, stonewalling and outright denial about the 'knowledge' of their actions. These time lags had serious repercussions for the end-users of toys (children everywhere), who were ultimately exposed to this hazard for longer than necessary. Chapter 9 critiques how different companies responded to the global recalls by critiquing the product recall process through the lens of corporate social responsibility and environmental citizenship.

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Chapter 9

Recalling Toxic Toys

Published in:

http://sociology.cass.anu.edu.au/publications/engaged-environmental-citizenship

Heckenberg, D. (2013) 'Corporate social irresponsibility and unsafe toys' in Aslin, H. and Lockie, S. (Eds), *Engaged Environmental Citizenship*, Darwin: Charles Darwin University Press and Australian National University E-Press.

Chapter 10: Denying and Mitigating Toxic Toys

Introduction

This chapter draws upon deviancy theory, techniques of neutralisation, corporate crisis response strategies, image restoration strategies, and strategies of conflict resolution, to explore how toy companies and their supply chain partners rationalised their actions, and 'neutralised' the harms they caused in producing and distributing unsafe toys. These strategies were deployed in the context of global toy-related recalls that played out between 2006 and 2008, peaking in 2007 and in the cultural milieu of east-west relations, particularly between China and the United States.

It was therefore important to me, as far as possible, to also try and understand the issues from a Chinese perspective, drawing upon the limited literature I could find, as most studies and publicly available reports focus on media, political and corporate responses to crises. I was also limited to journal articles and media accounts in English. This chapter touches on the links between techniques of neutralisation and corporate social responsibility and whether these techniques can be applied across cultural divides. It includes a summary of strategies of denial and techniques of neutralisation evident in these cases and in the context of a particular type of offending identified by Croall (2009: 128) as 'crimes against consumers'.

The first part of this thesis has focussed on different forms of harm and levels of harm; whereas the focus of this chapter is on the denials. Neutralisation theory is well-suited to the task of analysing the behaviour (what they said and did) of business actors (in global markets), or in this case, in the midst of a crisis of their own creation, that is designing, producing and distributing unsafe toys. Neutralisation theory, as Maruna and Copes (2005: 226) point out 'can be as relevant to criminological research today as it ever was', yet according to these authors 'to have relevancy it needs to catch up with

the times, be more flexible, admit to its shortcomings, and accept that it cannot explain all of the deviance phenomenon by itself'. Essentially this chapter examines accounts of wrongdoing by toy companies and their supply chain partners, as they played out in the public domain.

Maruna and Copes (2005: 227) also argue 'that there is little empirical evidence that individuals ascribe to neutralisations in advance of behaving criminally, and it is difficult to imagine how evidence of this could be reliably collected'. However, there is a case, in the white-collar context for arguing that companies do ascribe to neutralisations in advance. Certainly, a window of opportunity exists, where companies, in the case of crises such as these product recalls (who know about a product defect before the regulator or consumers) begin to formulate neutralisation strategies (aimed at anticipating the reactions of their key stakeholders). These windows lie between when the company discovers the hazard, when the regulator is told about the hazard, and when the public finds out about the hazard, and this can be anything from days to years (as the case of Schylling Inc demonstrates, where the company had known about the trouble with lead on the knobs of spinning tops and pails since 2002, but failed to alert the regulator; at that time.

> Although it eventually reported about these toys to CPSC in 2007, Schylling knew or should have known by 2002 that most of the toys did not comply with the lead paint ban, and it failed to report this information to the government in a timely manner. Instead of notifying CPSC immediately, in 2002 Schylling conducted a unilateral recall of the distributed pails by seeking their return from affected retail business customers (USCPSC Media Release No: 10133, 4/2/2010.

Instead the company was forced to acknowledge what had occurred in 2002, when an investigation into toy safety by *The Chicago Tribune*, some five years later, in August 2007, turned up a lead-contaminated knob on a spinning top being sold on the internet (Possley and Oneal 9/8/2007).

Martin et al (2008 :117), citing Fritsche (2002) note that 'the techniques of neutralisation are not the only way to study transgressors accounts of wrongdoing, particularly in relation to violations of environmental law'. This is consistent with Howard and Levinson (1985: 191) observation that such unawareness of the work of other scholars, has led to a 'wasteful duplication of effort that follows from mutual interdisciplinary ignorance' (cited in Maruna and Copes 2005: 226).

Even before I read these words, I had approached this chapter with a mind to considering both academically familiar and unfamiliar ways of examining the issues, as well as culturally familiar and unfamiliar points of view (e.g. Guanxi and a Chinese approach to crisis management), building upon anecdotal knowledge of the damage control process. The privilege of drawing upon other disciplines (sociology, psychology, political science, business communications and ethics) is, for me, one of the most inviting aspects of study in the field of criminology, although the danger is that one loses ones compass in the milieu of ideas. Nonetheless, it occurred to me that the strategies companies use to defend themselves during a crisis (e.g. product recall, toxic spill, mass poisoning) bear a striking resemblance to Sykes and Matza (1957: 667-699) techniques of neutralisation. It serves as a starting point for the analysis in this chapter.

Techniques of Neutralisation

This section deals with the general methods whereby the corporate actors involved in toxic toy issues engaged in the politics of denial. It provides a preliminary account of the narratives of denial, the types of techniques mobilised by these actors, and the purposes of denial.

Fundamentally, the use of such techniques relates to attempts by corporations to evade responsibility and blame for harms and crimes associated with their products.

Sykes and Matza (1957: 667-669) proposed a set of techniques by which delinquents justify their illegitimate actions.

- Denial of responsibility – offender believes he/she was the victim of circumstances or forced into a situation beyond their control,
- Denial of injury – offender believes their actions did not cause harm or damage,
- Denial of the victim – offender believes the victim somehow deserved victimisation, Condemnation of the condemners – offender believes those condemning his/her actions are hypocrites,
- Condemn the condemners – offender accusers have done the same or worse themselves, which somehow constitutes and excuse for their own action and therefore abdication of responsibility
- Appeal to higher loyalties – offender believes the offence was committed for the greater good of someone (e.g. a friend) or something (e.g. an organisation) else.

In the case of juveniles, techniques of neutralisation are typically learned by copying the behaviour of peers. Similarly, in the corporate context, techniques of neutralisation are learned by copying (or modelling) the behaviour of other organisations such as those known to have successfully weathered a similar crisis. Companies do this by drawing upon a toolbox of scripted responses called crisis response strategies. The idea is to 'spin' a particular narrative in the public domain, designed to both persuade those most affected by the harm (e.g. consumers) and to influence those

most likely to offer resistance (e.g. politicians) that what occurred is a hiccup, beyond their control (in these cases) and that something is being done to make sure it does not happen again.

Just as juvenile delinquents seek to avoid guilt whilst simultaneously protecting their self-esteem, companies seek to avoid guilt [wrongdoing] whilst simultaneously protecting their corporate self-esteem [reputational assets such as corporate image, brand reputation and consumer trust]. In the case of a corporation this 'self-esteem' might translate into protecting their corporate image and brand reputation in the public domain.

It could be argued that producing unsafe products is an act of corporate delinquency (or as discussed in Chapter 9 corporate social irresponsibility). When an organisation does this their response is not dissimilar to that of a juvenile after being 'caught out'. Both are intent on justifying and excusing their conduct, whilst seeking to preserve some part of their 'reputation' intact, at a time when what they say and do is under scrutiny by key stakeholders, especially those with the power to influence how an organisation is perceived in the public domain.

Again, like the juvenile delinquent, the corporate delinquent is motivated by a desire to avoid the 'criminal label' and to somehow render what they have done less offensive to: those who have the authority to shape what happens to them as a result of wrongdoing (e.g. regulator), key stakeholders who have the capacity to influence how they are perceived publicly (e.g. investors, politicians, advocacy groups and angry parents and carers) and therefore to damage reputation (corporate image, brand integrity, consumer trust). These key stakeholders have the capacity to construct an opposing narrative (to that of the company) in the public domain, usually expressing outrage and demanding something is done about the issue.

These demands typically escalate into focussed 'Hearings' of some sort, often politically instigated and emotively charged (as the U.S. Senate Hearings on toy safety were). Nevertheless the transcripts from these Hearings provide a source of verbatim statements reflecting how key stakeholders were thinking and assessing the issues at the time. In addition, the 'staff allegations' section of USCPSC Settlement Agreements with the companies concerned (sometimes settled up to two years after the recall events) provide the regulator's view of a chronology of events as they played out (sometimes different to the narrative playing out in the media, for instance). Ultimately for the company, the objective is to return to business-as-usual as quickly as possible, having sustained minimal reputational and economic damage.

Two voices of disapproval, that Collins (1989::2) identifies in a typology of organisational harm - 'stakeholder *retaliation* and justice system *condemnation'* (whether criminal, civil or administrative) - do have an effect on organisations. These formal processes of disapproval (stakeholder retaliation and justice system condemnation) can be damaging to a company's reputation especially when the details of what occurred emerge over time in the public domain (e.g. through the outcome of law suits.

One group of stakeholders increasingly taking an interest in the production of corporate toxic harms are shareholders (shareholder proxies in relation to the production of toxic harms are on the increase). During 2008, the Investor Environmental Health Network (IEHN) describes how there has been a 'toxic product recall backlash as investors file a record 21 resolutions on a wide range of chemical product safety concerns'

For instance:

> At Mattel, a resolution filed by stockholder Marie-Claude Hessler-Grisel asks the company to report on product safety and occupational health issues. A related resolution filed by the New York City Pension Funds was withdrawn when the company agreed to produce reports related to its supply chain and product safety (IEHN 2008 ahttp://iehn.org/news.press.toxicproductrecall.php).

Although it is extremely difficult for companies to totally deny the harm caused by the manufacture of unsafe toys, they can deploy strategies to contain the damage as well as rationalise their conduct and neutralise the harm. They may accept there is a problem (the toys are unsafe), but as in these cases, they may initially deny it is *their* problem (typically someone else is to blame and increasingly this is a third party). Sometimes, evidence comes to light over time that contests these claims (e.g. USCPSC staff allegations in Settlement Agreements with the companies concerned; the outcome of product liability cases), that may present a different chronology of events or reveal issues such as stonewalling or tension rather than co-operation between the company and the regulator.

For instance, during the Mattel recalls it was reported in the media that that the relationship between the company and the regulator was 'tense' (see Casey and Pasztor, Safety Agency, Mattel Clash Over Disclosures, *The Wall Street Journal,* 4/9/2007). But just like traditional offenders, companies may continue to deny critical elements of their offending (e.g. denial of wrongdoing, denial of breaking the 24 hour reporting rule, denial of 'knowingly' producing and importing unsafe toys and so forth) despite allegations and civil penalties imposed by the regulator (in these cases the US Consumer Product Safety Commission). The rule of thumb seems to be to pay the fine, avoid any further litigation and return to business as usual as soon as possible.

Heath (2008: 605), in an analysis of business methods and moral motivation from a criminological perspective notes that 'when white-collar crime is viewed from the perspective of techniques of neutralization you can see why bureaucratic organizations such as large companies and the market, might constitute peculiarly criminogenic environments', which he describes this way:

> These are institutional contexts that generate a very steady stream of rather plausible (or plausible-sounding) excuses for misconduct. This is the result of a confluence of factors: first, corporations are typically large, impersonal bureaucracies; second, the market allows individuals to act only on the basis of local information (Hayek 1945), leaving them in many cases unaware of the full consequences of their actions; third, widespread ideological hostility to government, and to regulation of the market in particular, results in diminished respect for the law; and finally, the fact that firms are engaged in adversarial (or competitive) interactions gives them broader license to adopt what would otherwise be regarded as anti-social strategies (Heath 2007 cited in Heath 2008: 605).

As MacDonald (2010) notes on the Business Ethics Blog, in a critique of Heath's article, 'Sutherland (1968), Punch (1996) and Braithwaite (1989: 128-129) have all variously described the corporation as an institutional environment that is in many cases demonstrably criminogenic' and further:

> Business seems to be in Heath's words, a 'criminogenic' setting (i.e. a setting that seems to generate criminal behaviour, along with other forms of wrongdoing). If we want to improve ethical conduct in business, we need to understand what characteristics of the world of business are responsible for that pattern' (MacDonald 2010 at:

<http://businessethicsblog.com/2010/11/16/mba-ethics-education-avoiding-excuses/>.

Heath (2008: 611) imagines 'an ethics curriculum that would bring to conscious awareness certain patterns of self-exculpatory reasoning', the goal as he puts it 'would be to neutralise the neutralisations'. McDonald (2010) on The Business Ethics Blog makes some interesting observations about how business actors utilise neutralisation techniques to redefine their behaviour:

> …the existing criminological literature points to the fact that wrongdoers exhibit patterns of 'neutralisation' with regards to their crimes. That is, they describe their behaviour differently than an observer would. They define words differently, in order to attempt to rationalise their behaviour. In essence, what this allows them to do is to 'admit that they *did* the thing, without admitting that it was actually *wrong* (MacDonald 2010 at http://businessethicsblog.com/2010/11/16/mba-ethics-education-avoiding-excuses).

This is precisely what companies do (and what they did in these cases) – they admitted that they *did* the thing (produced and distributed unsafe products) but mitigated their *wrongdoing.* Heath (2008) suggests that Sykes and Matza (1957) techniques of neutralisation may be more effective in addressing business ethics and corporate crime than theories of 'moral motivation'. Perhaps, but companies *are* motivated by a set of values. In a large corporation these are distilled from the top down in various forms - in mission and value statements; induction materials; codes of conduct; policy manuals, or embedded in corporate social responsibility statements, to name a few. These form the philosophical underpinnings of the company's public disclosure of how it does what it does although they may not necessarily be equally applied across an organisation. Companies *are* also motivated by profit

making which takes place in a fiercely competitive environment in the global toy sector.

A culture of acceptance of the product recall as a business-as-usual 'norm' in the toy industry (e.g. two or three recalls a year are normal) and in the wider community (e.g. a colleague's comment that 'so what, product recalls happen every day'), allows companies to give themselves permission for occasional lapses. It constitutes a form of self-deception (it is OK once in a while to produce dangerous products) and this notion of the unsafe product as the norm becomes the basis for seeking consumer forgiveness, on the understanding that we are all human and we all sometimes make mistakes. This is used as a basis to seek empathy from consumers

> 'We are not perfect, we have holes' (Jim Walter, Senior Vice President at Mattel), but 'But we're doing more than anyone else (Barboza and Story, *The New York Times*, 26/7/2007).

This belief that product recalls are an expected 'norm' in the toy industry enables companies to give themselves permission to produce unsafe products. In response to a second round of recalls, Mattel's CEO said:

> "We have had recalls every year since I've been here" (Mattel CEO, quoted in Story, *New York Times*, 29/8/2007).

Strategies of denial and techniques of neutralisation are then drawn upon to defend this perceived 'right' There are also narratives of denial surrounding the substances and components that were found in these toys, historical (in the case of lead) and more contemporary (in the case of magnets).

Narratives of denial

As noted by Maruna and Copes (2005), citing Sykes and Matza (1957),' transgressors use neutralisation techniques to make distortions and rationalisations that allow them to reinterpret their behaviour as socially acceptable, or even pro-social. In this way, they avoid guilt and protect their self-esteem (see Maruna and Copes 2005). In similar vein, companies use neutralisation techniques to make distortions and rationalisations that allow them to reinterpret their behaviour as socially acceptable (redefining events as a crisis, a mistake, an isolated incident, a tragedy

In this way they avoid guilt and protect their reputational assets (corporate image, brand reputation, trustworthy company). Scott and Lyman (1968: 46) suggest that 'neutralisations' are used 'when describing verbalisations designed to relieve the speaker of culpability [responsibility, guilt, fault, blameworthiness] or censure [official condemnation] and the more generic "account" [written or spoken report of something] to describe a statement made by a social actor to explain unanticipated or untoward behaviour (cited in Maruna and Copes 2005: Note 4, pp 9-10)

There are narratives of denial (e.g. corporate spin), processes of denial (e.g. the product recall process), structures of denial (e.g. corporate hierarchy of decision makers; multiple supply chain organisations) and practices of denial (e.g. misleading or fraudulent labelling, falsification of safety certificates; failing to disclose incident and injury data in one case). The first spins a particular narrative in the public domain, the second (recall process) functions to perpetuate the harm (e.g. as unreturned toxic toys and sometimes unrecalled knock-off toys such as Magnetix™ construction sets continue to circulate in formal and informal markets).

Other means by which harm was perpetuated in these cases included systemic practices by supply chain partners (in China) in outsourcing and sub-contracting the supply of raw materials and the painting of toys/components of toys; denial (by western toy companies) of known risks in the supply chain (e.g. lead paint) or in the case of Mattel and Mega Brands denying responsibility for poorly designed magnetic toys by prematurely blaming China. Toy companies routinely denied or minimised the known risk of lead paint in their extended supply chains. Mattel, after initially denying responsibility for poorly designed magnetic toys and shifting blame to China, were subsequently forced to make a public apology when it became obvious that poor design (in the west) was the problem rather than a manufacturing fault (in China).

Several narratives played out in the public domain during these recalls.

(1) Between the company and the media (sometimes oppositional, sometimes supportive). In these cases the media acted as both whistle blower (exposing toxic toys) and also assisted in scapegoating China;

(2) Between the company and the regulator often setting the tone for either a co-operative or tense relationships

(3) Between the company and consumer advocates (usually oppositional and demanding change);

(4) Between the company and politicians (usually expressing outrage, seeking 'the facts' about what happened and why, who knew and when, as well as demanding change);

(5) Between the company and consumers (usually expressing outrage and betrayal at what happened and demanding something be done about it)

Studying what company representatives say and do may not necessarily provide an explanation of why they did it – the why often remains elusive, as Maruna and Copes (2005: 222) note:

> the study of 'offender verbalisations as "data" in criminology might have originated with Cressey's (1953) study of embezzlers' excuses, but has since become primarily associated with Sykes and Matza's (1957) techniques of neutralisation. However, just as Cressy noted 'Listening to people tell you why they did *does not* give you explanations of why they did it' (quoted in Maruna and Copes 2005: 222).

Like the juvenile delinquent, 'it is by learning a set of scripted response strategies that the corporation too learns the art of rationalising its offending (Sykes and Matza 1957: 667).

Apologies, for instance, were commonplace and prolific (often being issued more than once throughout the different stages of the crises). But what actually constitutes an apology? To effectively restore their reputation, companies used apologies (labelled as rebuild strategies or bolstering strategies by some scholars) rather than deny or diminish strategies (justifications or excuses). Throughout the stages of a crisis a company's reputation and the public perception of that reputation may shift over time, particularly as new evidence emerges (e.g. such as when the public learned that companies knew about the trouble with lead and magnets well in advance of consumers and sometimes even the regulator).

Choi and Chung (2012: 7, 9) in an analysis of the Toyota recalls, describe the function of the apology in the context of corporate crisis communication:

> *Apology* is a critical crisis communication strategy for a company to use in order to *defend its reputation and protect its image* [e.g. defence strategy]

> *Apology* can also be used as a critical crisis communication strategy in order to *separate itself from the negative impact of a crisis* [e.g distancing strategy]

However, as the authors also note, an 'apology was an effective strategy only when the participants perceived the strategy as appropriate, sincere and candid' (Choi and Chung 2012: 22). Further, Choi and Chung (2012: 9) explain, citing Benoit & Drew (1997) that 'In a crisis, an apology can be implemented by an organisation accepting responsibility for the crisis and asking for forgiveness. In the process of apologising companies often also communicate that their actions were not intentional.

When managing a crisis, the critical issue is not so much altering the reality of the crisis but changing the public's perception of it. This is most effectively achieved by redefining it as something else (as an isolated incident, a mistake, unintentional etc), thus attracting public empathy for the company's plight, although this is more difficult to achieve with unsafe products, particularly when they are children's toys. The public is less inclined to forgive a company even when coupled with claims that it was unintentional, due to unforeseen circumstances or beyond their control.

> "We're very disappointed this happened," Stoelting said, "and we're very serious about the steps we're taking to prevent it from happening again." (Stoelting, RC2 CEO quoted in Possley, *The Chicago Tribune,* 27/7/2007

> "We had a laser focus on getting the unsafe products out of the hands of children," he said. "I make no apologies for that." (Stoelting, RC2 CEO quoted in Possley, *The Chicago Tribune,* 27/7/2007).

However when a company apologises, this 'effectively requires an organisation to publicly accept responsibility for a crisis, thereby weakening its legal position in the event of a lawsuit' (Tyler 1997 cited in Coombs & Holladay 2002: 166). Apologies and statements of regret are designed to garner empathy from key stakeholders. Given that product recalls are accepted as a business as usual norm in the toy sector and the manufacturing sector more widely and that consumers are becoming more inured to them (because of their frequency), this creates an environment where companies can excuse themselves from such a lapse (after all everyone makes mistakes).

But some of these mistakes are becoming more lethal (especially in the area of adulterated food – e.g. melamine in infant formula, heavy metals leaching from certain metal-on-metal hip implants, pathogens in food and industrial gel in breast implants). If the public accepts the notion that recalls happen every day and companies and the toy sector more broadly continue to spin the idea that recalls are a 'norm' then this creates an environment where excusing themselves for a lapse increases the plausibility of this excuse. Some companies issued apologies (statements of regret asking the public to pardon them for producing unsafe products).

For some companies the cost of producing harmful products is mitigated by product liability insurance, by which they can recover some or all of the costs involved (at least the sum of the civil penalty and more). As such, companies may need to be careful how they express an apology in the public domain. In some countries, admissions of liability, for example, could result in a loss of insurance coverage. Statements of regret (e.g. we sincerely regret this has happened to you) may be preferable to an apology (e.g. we are sorry our mistake has caused harm) because the latter may constitute an admission of liability, whereas, the former constitutes an apology but does not acknowledge fault. In other cases, companies (like RC2) discovered that despite having both domestic and international insurance, they were not

covered for the substance (lead) in the United States, nor at the site of the origin of the harm (China). Due to the volume of toys involved Mega Brands had to self-insure towards the end of their product recall in relation to Magnetix™ building sets.

Misleading labelling can also be seen as a narrative or form of denial. No labelling denies the consumer the information necessary to know what at toy is made of, what is inside a toy and what could potentially migrate from a toy. Labelling items as toxic-free, BPA-free or lead-free when this is subsequently found to be inaccurate, or using these types of labels to reveal the presence of one toxin but conceal the presence of others, is deceptive. Just because a product is labelled lead-free may not mean that it is free of all heavy metals (e.g. cadmium may be present). An emerging trend is the blanket labelling of children's products with a small parts choking hazard for children under three, even products that do not contain small parts.

Strategies of Denial

Denial of the Harm and the Victim

These toys are now safe said Mega Brands about the Magnetix™ building sets, but they were not and the company suffered a further recall (where consumers claimed the magnets were falling out of both new and redesigned toys). Mattel and Mega Brands both redesigned toys to more securely retain magnets after their initial recalls, but both companies were forced to issue repeat (expanded recalls) for the same products with the same problems. The understanding was that toys on stores shelves after a certain date were now safe. Mattel had declared on at least two separate occasions in the public arena that they were now attaching these magnets more securely.

In an interview with CNN in January 2008, Mattel's CEO said they had begun doing so in January 2006 after they learned about the death of Kenny Sweet. But the question is why did they wait so long when they knew the same magnets were dislodging from one of their toys (Polly Pocket™ in July 2005), four months before Kenny died? Another question that arises here is that if magnets were falling out of new boxes of Magnetix™ and Polly Pocket™, surely this might also have been noticeable to those assembling the toys in China. What procedures are in place for factory workers (without punitive repercussions) to advise factory management about anomalies in products? If magnets were falling out during the assembly and packaging process, then this presents an opportunity for an early warning system that could alert foreign toy companies to emerging problems.

Denial of injury (and the victim) occurred through assertions of 'no injuries', particularly in relation to lead-contaminated toys. The assertion of 'no injuries' (especially in relation to lead recalls) implies that children were not harmed by lead-contaminated toys, but this claim is problematic given what is now known about the health impacts of lead (even in small doses over time) and the as well as the latency period between exposure and presenting symptoms. The assertion that no child was injured as a result of this particular toy or these particular toys, denies the fact that children were harmed by the same toys (subject to a previous recall) or similar toys (made by competitors).

As noted elsewhere in this thesis, compounding this denial is a paucity of global statistics on toy-related deaths and injuries more broadly and lead-related deaths and injuries in particular. We simply do not know with any reliability exactly how many children around the world died or were injured by lead or magnets migrating from their toys. What we do know is that the focus of statistics was on the victimisation of children in the developed world, but largely silent on children in the developing world. Not systematically counting incidents and injuries represents a failure to capture the true costs of toxic toys (e.g. measured

in deaths, injuries, emergency treatment, short/long-term health care and education costs, loss of quality of life and altered futures). Statistics (counting numbers) also fail to reflect the true extent of suffering, which is more adequately captured in case reports (e.g. medical accounts of suffering) and case vignettes (media, advocacy and parent/carer accounts of suffering).

The notion of victimhood is more transparent when the causal links between exposure and health impact are obvious (e.g. magnets dislodged from certain toys and children sustained identifiable and verifiable injuries that are impossible to deny). The same is true for foreign objects such as button cell batteries (where serial numbers have been visible on these objects found inside children's bodies and are therefore traceable). Similarly, if a child dies of lead poisoning from swallowing a specific object (where the lead by weight is measurable) the causal links are obvious (as in the case of a child who died after swallowing a lead-contaminated charm).

However, the causal links between exposure and injury in relation to lead are much more obscure, for instance, when a child lives in an environment where lead is already present from other sources (e.g. peeling lead paint on an old house or in the soil of a community play setting), or where a child chewed on a toy, over time . Proving the links between exposure and elevated lead levels is much more difficult to substantiate in these instances. Should a child develop symptoms over time (e.g. behavioural problems; learning difficulties) and is subsequently found to have elevated blood lead levels, the links between cause and effect are clouded by the passing of time.

Denial of Environmental Harm by Avoidance

The issue of the disposal of recalled toys was typically avoided by toy companies who were not keen to provide specific details regarding the fate of contaminated toys. For instance, 'Asked what the company [Mattel] plans to do with the recalled toys, Jules Andres, said it [the

company] was working on a "responsible approach" but could not provide further details' (D'Innocenzio, *Associated Press* 16/8/2007). A spokeswoman for RC2 Corporation said:

> "We are still working with the USCPSC to determine the best method of disposal for the recalled products" she said. "Once that is determined, the company will dispose of the potentially unsafe toys" (RC2 spokeswoman quoted in D'Innocenzio, *Associated Press* 16/8/2007)

A spokesman for the USCPSC advised the Associated Press that 'recalled products cannot be exported for re-sale, that disposal is sometimes determined as part of a company's recall negotiations with the agency, but ultimately must be in accordance with state and federal environmental laws' (D'Innocenzio, *Associated Press* 16/8/2007). However, the USPSC's spokesman 'said he could not discuss whether the agency entered into any specific arrangements with Mattel on how it should handle its inventory of recalled products' (D'Innocenzio, *Associated Press* 16/8/2007). For toys that don't pose an environmental hazard such as the recalled magnetic toys [I would dispute this perception – See Chapter 5) reportedly, 'a manufacturer has more leeway, but still needs to obtain USCPSC approval..

In its 2009 Global Citizenship Report (Mattel CSR 2009: 18), Mattel said of the toys recalled in 2006/2007:

> We are committed to the proper management of recalled products, including those that were returned to the company or quarantined prior to distribution. In the United States, all returned products are being held in warehouses until we are sure they are no longer needed for our own investigation or for legal reasons. We are exploring ways to separate and recycle parts of the products, including plastic resins, batteries and paper packaging. In some cases the sorting of these materials for recycling is required – for example battery recycling in

> California. Outside of the U.S., Canada and Venezuela, all affected products have been disposed of in accordance with applicable laws.

Denial by Minimisation

Stressing the importance or priority of child safety was a recurring strategy used by companies to ingratiate themselves with consumers, as was 'I am a father too'; over-inclusiveness was a minimisation or diminishment strategy used by companies to deflect attention from the scale of the problem as were statements about the tiny percentage of toys affected by the recalls (e.g. only 4% of all the toys we sell). A typical strategy was to downplay the scale of the harm (e.g. only a little bit of lead) or downplay information about the dangers of products.

Out of an abundance of caution' was a recurring theme in product recall notices, as was these recalls were 'overly-inclusive'. Companies regularly claimed product recalls were 'overly-inclusive' (we recalled more toys than we needed to) or the official recall announcement (put out by the USCPSC) used the phrase 'out of an abundance of caution' such and such a company recalled (we recalled them just in case they were toxic). Minimisation in these case studies takes the form of diminishment strategies that minimised both the nature and scale of the harm as well as claiming 'precautionary' measures were taken. Mattel said the recalled toys represented only 2.5 per cent of the 800 million toys the company manufactures each year and RC2 (quoted in D'Innocenzio, *The Associated Press*, 16/8/2007) said a spokeswoman for RC2, said that 'As of last week [8 August 2007]they had recovered 56 per cent of the toys included in its 13 June recall'.

Denial of Responsibility

In nearly every case there was an 'oops' factor – we seem to have overlooked some toys or further toys have come to our attention and this will require an *expanded* recall (same problem, same toys or same problem different toys). It is someone else's fault was a recurring theme in both lead and magnet-related recalls. In these cases, the 'someone else' was typically elsewhere in the extended product supply chain. Chinese contract manufacturers (the manufacturing partners in toy companies extended supply chains) were blamed prematurely for *all* the recalls, but were only implicated in the lead-related recalls. Magnets were a design fault, the responsibility for which lay further up the supply chain with toy companies headquartered in the west.

This was despite the fact that Mattel, for example, had over 200 people on the ground in Hong Kong and China (Mattel Asia Pacific Sourcing or MAPS staff) engaged in assisting with sourcing raw materials and testing among other responsibilities - they were apparently completely in the dark about the systemic practice of outsourcing and sub-contracting going on in the manufacturing sector of the off-shore supply chain in China. RC2 also had hundreds of staff on the ground with similar responsibilities.

The language used to condemn 'the other' was typically strong and emotive 'we were let down and so we let you down'; they didn't follow the rules, they violated their agreements. For example

> Lee Der's use of an unregistered facility to produce Mattel product was a violation of its manufacturing and procurement agreement with MAPS [Mattel Asia Pacific Sourcing], as was its failure to test every batch of paint received from its paint supplier for use on Mattel product' (Eckert, CEO Mattel Inc 2007: 7).

But nothing was said about what MAPS (over 200 employees) were doing whilst these systemic breaches were occurring. Toy companies excused the harms they caused whilst simultaneously presenting their organisations in the best possible light.

> 'We've always required our suppliers to follow our safety specifications" Mr Stoelting said. "In this incident those requirements were not met" (Stoelting, CEO RC2, quoted in Story, *New York Times,* 26/7/2007).

Common to all of these toy companies was a failure to satisfactorily manage a known risk (e.g. paint containing lead) in the manufacturing sector of their supply chains in China or to contain a risk (e.g. magnets in toys). Toy companies failed in their duty of care by neglecting to monitor and verify the specifications and standards outlined in their agreements with Chinese contract vendors. Where was the paper work (e.g. Certification of safety, authenticity, quality) supporting the toy's safety and quality and if there was paper work, was it misleading or fraudulent? Instead of enforcing, testing and verifying, companies appear to have relied on relationships of trust in the supply chain, some of which had been in place for many years. Why were toys not tested for the potential for magnets to migrate, especially in light of the medical literature on ingestion of these foreign objects (dating back almost two decades), documenting the lethal nature of these magnets and the specific injuries sustained by the children who swallowed them.

As Schneider and Wright (2004: 4) note in relation to individual offenders:

> Denial is almost always characterised as an *obstacle,* whereas acceptance of responsibility is typically considered a desirable outcome. Focussing on denial tends to view offenders in terms of egregious behaviour, whereas focussing on responsibility

> focuses on intervention strategies, opportunities and motivations for deviant behaviour.

The focus here was very much on denying responsibility by shifting the blame elsewhere in the supply chain.

Denial of wrongdoing

At the time of the recalls the U.S. Consumer Product Safety Act defined 'knowingly' to mean:

> The 'having of actual knowledge' (which is fine), but also 'the presumed having of knowledge deemed to be possessed by a reasonable man [sic] who acts in the circumstances, including knowledge obtainable upon the exercise of due care to ascertain the truth of representations".

Most companies admitted responsibility but denied wrongdoing. Similar to what Heath (2008) observed, , the companies in this study admitted they did the thing (in this case producing and distributing unsafe toys) but when it came to formally responding to the allegations by USCPSC staff in Settlement Agreements, they responded by denying any wrongdoing or 'knowingly' introducing toxic toys into the stream of commerce.

Examples of denial of wrongdoing following from these cases, in response to USCPSC staff allegations include:

> RC2 denies that it violated section 19(a)(1) of the CPSA, 15 U.S.C. 2068(a)(1), [toys in violation of the lead paint ban] and further denies that it did so 'knowingly' as defined in section 20 (d) of the CPSA, 15 U.S.C. 2069(d).

> Mattel denies the [USCPSC] staff's allegations set forth above that it 'knowingly' violated the Consumer Product Safety Act (CPSA) (USCPSC Settlement Agreement 2009: 6)

> Fisher-Price denies the [USCPSC] staff's allegations that it 'knowingly' violated the Consumer Product Safety Act (CPSCA) (USCPSC Settlement Agreement Mattel 2009: 6).

Sometimes companies not only denied they did the thing, but they also hid the thing (by concealing incident and injury data as in the case of Rose Art/Mega Brands).

Denial by Blame-Shifting

Blame-shifting was a recurring theme in these case studies, where the hierarchical nature of organisations and their key decision-makers and the fragmented and trans-world nature of the supply chain provided ample opportunities to shift blame up and down the chain. Blame was shifted from one company to another (e.g. parent company in the West to contract manufacturers in China; from Chinese contractors to local vendors and sub-contractors); from one country to another (United States to China and vice versa), from company to regulator (and vice versa) and from company to consumer in some cases (lax parental supervision; toys used by under age children, rough play by siblings).

Mostly, western toy companies blamed China (the nation state), Made-in-China (the brand) and Chinese contract factories (the companies). For instance, by the time Mattel apologised to the Chinese after prematurely blaming them for all the recalls (including the magnet-related toys), the damage was already done and China's reputation as a safe manufacturing hub was being questioned around the world. Mattel came to the realisation (in September 2007), months after their first magnet-related recall (in November 2006) that the Chinese were not responsible for faulty magnetic toys – they were. So they had to send a senior representative to China to apologise (however there was confusion over who he was apologising to, whether that was the Chinese authorities, the Chinese people or Chinese manufacturers who had been erroneously and prematurely accused of manufacturing the defective magnetic toys).

But the damage had already been done to China (the nation state), Made-In-China (the brand) and Chinese contract vendors (the companies) thereby obscuring America, Canada and Australia (nation states of the toy companies), Thomas™, Polly Pocket™, Dora the Explorer™ Magnetix™, Bindeez™ (the toy brands) and toy companies in the west (Mattel/Fisher-Price, RC2 Corporation, Schylling Inc, Mega Brands Moose Enterprises).'The other' had been successfully tarnished and as we know – mud sticks. In the case of magnetic toys, instead of America/Canada (the countries in which the toys were designed); instead of Magnetix and Polly Pocket (the faulty toy brands); instead of toy companies (Mattel, Rose Art/Megabrands), the public focussed on China, Made in China and Chinese factories. In fact by far the greatest numbers of toys were recalled for the problem of magnets (rather than lead). In Mattel's case, this was something like 20 odd million (for magnets) compared to 4 million (for lead) and Mattel was an offender in both cases (lead and magnets).

Blame-shifting occurred up and down the supply chain and was most effectively achieved by toy companies using the 'them and us scenario'. Some toy companies blamed parents. Mattel was an exception to this, having learned this lesson from a previous recall (during the 1990s) In one case (RC2) there was a second round of apologies because the toy sent out as a 'gift' (toad) was also contaminated with lead and had to be returned. Rose Art/Mega Brands, on the other hand, did imply that parental supervision was a factor, as did Moose Enterprises, in the case of Bindeez™ beads.

Denial by Distancing

Companies sought to distance themselves from the harm in a number of ways be that at a geographical, organisational or ideological level. As far as lead was concerned, for example, they could effectively distance themselves geographically from the origins of the harm (e.g. lead was introduced to the supply chain in China) but ethically these were

dedicated contract factories in an holistic supply chain that began with design and development in America, manufacturing in China, export logistics out of Hong Kong, and consumption and disposal in the countries of import. In the early stages of the recalls all of the companies (RC2, Schylling, Mattel/Fisher-Price) blamed China (the country, Chinese manufacturers and the Made-In-China brand). This effectively deflected attention away from the countries where these toy companies were headquartered (e.g. the United States); the companies involved (e.g. RC2, Schylling, Fisher-Price) and to a lesser extent the toy brands (e.g. Thomas, Curious George, Barbie, Dora).

Denial by Withholding Information

Partial disclosure, non-disclosure, delayed disclosure, concealing information, drip-feeding information to the regulator, stonewalling were all characteristics of actions by different companies. In the months following the magnet recalls, one company in particular withheld vital information from the regulator, data that was critical to assessing the true nature and scale of the hazard. In doing so, they compromised the health and safety of thousands of children.

The most surprising aspect of this study has been the realisation that 'sometimes those who are responsible for these dangers know about the problem' (American Association for Justice 2009: 3) but fail to act. Delaying disclosure to the regulator, thereby delayed disclosure to the public, in these cases exposing children to lead, cadmium, toxic chemicals and rare earth magnets in windows of harm that could have been shortened, had some of these companies disclosed much earlier what they knew about their products, what they contained and the harm they could cause. One CEO has maintained that it is easy to apply 'could' backwards, but the fact is that this company knew in July 2005 that a child had been seriously injured by magnets that dislodged from one of their Playsets, negotiated a settlement with the child's mother, but did not recall those toys until November 2006. What these

industries knew and when they knew it, has now become public through the outcome of law suits and the publication of civil settlement agreements.

In these case studies evidence suggests that the toy industry well understood the risk of lead paint in the China sector of their supply chains. They all had procedures in place to test for lead (and other heavy metals) at input (raw materials like paint and paint pigment), throughput (random batches of toys) and output (finished toys). There was also an acknowledgement that lead in paint was a risk for companies manufacturing in China. Toy companies may not have foreseen how the lead would unlawfully enter the supply chain (through the systemic outsourcing and subcontracting practices of their dedicated or preferred Chinese contract factories), but they were aware of the risk.

For those companies with staff on the ground responsible for sourcing safe raw materials, it is difficult to understand how they were not aware of what was going on in Guangdong since these case studies reveal that these practices were not recent (e.g. Mattel contract vendor Lee Der Industrial had been sourcing paint from one supplier for over three years and Mattel had been doing business with Lee Der and Early Light (their preferred contractors for 15 and 20 years respectively). Even if testing was only occurring at input (raw material) and output (finished toys) but not throughput (batch testing) the processes that were supposed to be in place apparently failed to detect lead in these toys (nor for that matter, did the issue of magnets dislodging arise as an observation in the supply chain either during design and development In the west) or during assembly and packaging (in China)

Like the toxic toy that triggered this study, these toys (and what they contained and subsequently released into bodies, places and nature) were able to transfer undetected from China to the world. Despite their denial, there is evidence to suggest (see in particular Liroff et al 2008)

that the toy sector and individual companies were aware of the risk of heavy metals in the China supply chain, particularly lead in paint. That is why, as a matter of course, they were routinely testing raw materials (e.g. paint and paint pigments) for lead and other heavy metals.

In certain cases (e.g. Schylling Inc tops and pails), the lead hazard was never reported to the regulator at the time of its initial occurrence (2002). It was only when a U.S. newspaper found lead on one of Schylling's spinning tops in 2007 that this issue came to light. When Schylling found out about lead-contaminated knobs on their spinning tops and pails in 2002, the company launched an internal investigation, initiated a recall directly from retailers (without involving the USCPSC) and instructed their Chinese contract vendor to replace the wooden knobs with plastic ones to alleviate the problem. Unfortunately, as came to light in 2007, the Chinese vendor had not followed these instructions and apparently, Schylling Inc had not followed up, so that in a five year retail window of harm between 2002 and 2007, these tops and pails continued to be sold through stores and over the internet, and also likely through charity stores, second-hand stores, swap meets, garage sales, street markets and so forth.

Crisis Management

This section deals with the specific processes associated with particular events in which the relevant corporations mobilise their resources to minimise the negative ramifications of a crisis. It is therefore concerned with how the strategies of neutralisation are actuated in concrete circumstances. This generally takes the form of a specific type of corporate script, one that involves recurring strategies of denial. Here the main concern is with protecting the overall reputation of the company, rather than denial of harm per se.

Companies respond to a crisis in particular ways, using crisis response strategies that have their origins in strategic crisis communication theory (SCCT). First, they identify the crisis type using as a defining tool 'the frame key publics used to interpret the event' (Coombs and Holladay 2002: 167). The objective is to evaluate the organisation's ability to control the event and how much the organisation is to blame for the event, but 'the central focus of SCCT is how to manage organisational reputation during a crisis' (Coombs and Holladay 2002: 167).

For companies, 'SCCT offers a set of principles that guide the selection of crisis response strategies in order to maximise reputational protection' (Coombs and Holladay 2002: 179). In a crisis, these 'response strategies function to mitigate reputational damage in the case of organisational misdeeds by demonstrating that the organisation cares for the victims and knows the proper way to behave, thereby meeting public expectations' (Coombs and Holladay 2002: 168). Crises with strong attributions of crisis responsibility (attributed to the company by key stakeholders) such as organisational misdeeds, require strongly accommodative responses such as corrective action and full apologies. (For a detailed discussion of the process see Coombs and Holladay 2002: 169-172). Therefore, 'as crisis responsibility increases so does the reputational damage inflicted by a crisis' (Coombs and Holladay 2002: 173).

Organisations can use crisis clusters to construct a crisis management plan for each cluster to which the organisation is vulnerable (see Table 10.1). The rationale for clustering is that 'if an organisation prepares a crisis plan for one crisis in the cluster, it is reasonably well prepared for all crisis types in that cluster' (Coombs and Holladay 2002: 173).

Table 10.1: Crisis Types by Cluster

Victim Cluster Harm is inflicted on the organisation as well as stakeholders. Crisis produces minimal attributions of crisis responsibility.		
1	Rumour	Circulation of false information to harm an organisation.
2	Natural disaster	A naturally occurring event (an act of God) that damages an organisation.
3	Malevolence/product tampering	Damage by an external agent against an organisation.
4	Workplace violence	An attack by an employee or former employee on current employees on the job.
Accidental Cluster Unintentional actions by an organisation, that is, the organisations did not intend to create the crisis. Crisis produces moderate attributions of crisis responsibility.		
5	Challenges	Confrontation by disgruntled stakeholders claiming an organisation is operating in an inappropriate manner.
6	Technical breakdown accident	An industrial accident caused by technology or equipment failure.
7	Technical breakdown **product recalls**	The recall of a product because of technology or equipment failure [*e.g.* magnetic toys recalled because of design defect]
8	Mega damage	A technical breakdown that produces significant environmental harm (the environmental damage is the defining factor).
Preventable Cluster Intentionally placing stakeholders at risk, knowingly violating laws or regulations, not doing enough to prevent an accident or defective product from reaching the market. Crisis produces strong attributions of crisis responsibility.		
9	Human breakdown accident	An industrial accident caused by human error (the human breakdown aspect is the defining factor)
10	Human breakdown **product recall**	A product recall because of human error (e.g. beef contaminated by e-coli because of human error).
11	Organisational misdeeds with no injuries (to external stakeholders)	Management knowingly deceives stakeholders but without causing injury.
12	Organisational misdeed management misconduct	Management knowingly violates laws or regulations.
13	Organisational misdeeds with injuries (to external stakeholders)	Management knowingly places stakeholders at risk and some are injured.

Source: Tabulated from Coombs (1999b), as refined by Coombs and Holladay (2002).

The recalls of lead-contaminated toys fit into the 'Preventable Cluster' (in particular No. 10) and the magnet-related toy recalls fit into the 'Accidental Cluster' (in particular No. 7). The lead recalls were the outcome of human intervention (on the part of those who used the lead paint, human oversight (on the part of those who were supposed to test the paint) and poor governance on the part of those responsible for overseeing that specifications and testing procedures were being followed. The magnet recalls were put down to a design defect, but they could also be attributed to a lack of foresight as to the nature of and potential mobility of what was in the toy (e.g. the most powerful magnets in the world today) and what might happen if those components dislodged and were swallowed by children.

The crisis response strategies above can be ordered along a continuum ranging from defensive (putting organisational interests first) to accommodative (putting victim concerns first) (See Coombs and Holladay 2002). The corporate ideal is to draw from this 'toolbox' of crisis response strategies, according to the type of crisis and the company's perception of the level of responsibility attributed to it by key stakeholders (e.g. those who can influence how the company is perceived in the public domain) and then to deploy a predetermined set of crisis response strategies in response to the evolving crisis (in this case the product recall). They bear a striking resemblance to, and fit broadly within, Sykes and Matza's techniques of neutralisation.

As the crisis escalates, at different stages, the company positions itself on this continuum between an accommodative stance and a defensive stance, utilising the crisis response strategies most suited to the evolving situation.

Some companies, like Mattel, delivered a double-defence, as reported by Palmeri (2007) in Bloomsberg Businessweek:

> In a press teleconference on Aug. 14, Eckert and Jim Walter, Mattel's senior vice-president for worldwide quality assurance, announced a number of steps they were taking to prevent further recalls. Mattel said the lead paint on the latest products resulted from malfeasance in the company's supply chain. Mattel's main supplier of the Cars products, Early Light Industrial, had subcontracted out the painting to another company, Hong Li Da. While the subcontractor was supposed to use paint supplied by Early Light, it instead used paint that contained potentially poisonous lead.
>
> > "Early Light, the vendor, is every much a victim as Mattel is," Eckert said. "The subcontractor [rather than Early Light] chose to violate the rules."

The techniques of neutralisation deployed by juvenile delinquents to rationalise their behaviour, avoid the 'criminal' label, mitigate the harm and preserve personal reputation bear a striking resemblance to the crisis response strategies deployed by companies to rationalise their behaviour, mitigate the harm, avoid the 'criminal' label and preserve organisational reputation. The individual offender wants, as far as possible, to preserve his or her personal 'reputation' and the company wants as far as possible, to preserve its reputational assets. Despite 'egregious behaviour' (Lynch and Stretesky 2001) both juvenile delinquent and company seek to emerge with some degree of reputational integrity still intact.

The respectability and high social status of modern-day international CEO's stems more from their position (status) in the company rather than their personal socio-economic class (which may precede or follow their career). As Beder (2006) notes, 'the corporate class' occupy a privileged position that not only provides a certain social status but also

access to networks of influence at elite levels politically, economically, legally and socially. The larger the company the greater the distance between executive, enterprise and the harm inflicted. A small business owner might be named and prosecuted for making unsafe toys, but a larger enterprise or transnational can successfully hide behind the corporate veil and has more opportunities to transfer blame elsewhere (to another organisation within the group or to an outside organisation they have contracted with to do the work).

When companies go into damage control they effectively go into denial. Throughout the crisis they deploy strategies designed to at one and the same time contain the damage whilst restoring image. Sometimes a CEO may take advice from another company in the same sector that has gone through a similar crisis. For instance, Mattel's CEO consulted with a retired Johnson & Johnson executive because of J & J's perceived success with the Tylenol recall. However these were two different types of crises – Tylenol was a case of tampering with a 'safe' product by a third party after it reached toy shelves. Mattel's crisis was for unsafe products containing poorly secured magnets and surface paint contaminated with lead, for which there would likely be a higher attribution of blame for system failures (poor design and lead contamination) in their supply chain, events that delivered unsafe products to store shelves, rather than less attribution in Tylenol's case.

One fundamental difference between the two cases is that Tylenol delivered a *safe* produce to store shelves (it was a case of tampering by an unknown third party after the event). Mattel delivered *unsafe* products to store shelves (magnetic toys poorly designed in America and lead adulterated toys contaminated during production in China). Both were created in different phases (magnets at design and development; lead at manufacturing) of an integrated supply chain that produced branded toys for Mattel and for which the company is ultimately responsible. For Mattel the attribution of blame by external stakeholders was likely to be much greater (supply chain insiders

created or facilitated production of an unsafe product) whereas for Tylenol the attribution of responsibility was likely to be lower (an outsider tampered with finished product).

If the company is large, they typically assemble a team of *insiders* (key executives and corporate communications staff) who might begin by assessing the type of crisis, hypothesising best to worst-case scenarios, preparing answers to anticipated questions by key stakeholders, especially those who can influence public perceptions about the company (media, politicians, consumer watchdogs, regulators and grassroots advocacy groups). Sometimes they may also harness the collaboration of *outsiders* (public relations agencies, lawyers) to prepare and vet the wording of announcements and statements for public release. Usually a crisis management team is appointed consisting of a senior spokesperson (e.g. CEO), members of the senior executive team (with divisional responsibilities) who may also take advice surreptitiously from the Board (both executive and non-executive Directors).

The public domain narrative usually put together by corporate communications and public relations people is the way in which consumers find out what is going on directly through company web sites (e.g. corporate media releases), but more likely through the mass media (especially Newspapers and Television, but increasingly also social media). It is these public domain narratives that shape public opinion about the company and its actions. In a headline on 14 August 2007, the *Wall Street Journal* declared 'Mattel does damage control after new recall' (Casey and Zamiska 14/8/2007).

Damage control refers to the process of offsetting or minimising damage to public image, reputation and credibility. In Mattel's case this was battled on several fronts:

- containing the fallout from a widening recall of toys,
- moving to quickly revamp safety measures at Chinese manufacturing plants,
- protecting the company's reputation among consumers and investors ahead of the 2007 holiday season (Casey and Zamiska, *The Wall Street Journal*, 14/8/2007).

Mattel also ran full-page advertisements in *the New York Times* and the *Wall Street Journal.*

> "Parents want to know what's going on" Mr Eckert said in an interview yesterday … But no system is perfect" (Mattel CEO quoted in Casey and Zamiska, *The Wall Street Journal*, 14/8/2007).

They also attempted to combat the bad news by assuring parents they understood what was at stake:

> In his video posted on the Mattel website and Yahoo on 14 August, Mattel's CEO said "absolutely nothing is more important than the safety and well-being of our children" (quoted in Casey and Zamiska 14/8/2007).

Unlike their first recall on 2 August, Mattel also quickly identified their authorised Chinese vendor (Early Light Industrial) who made the toys as well as well as the paint supplier (Hong Li Da).

The product recall threatens how a toy company is perceived in the public domain and in that context is perceived by the company as a *public relations crisis*. In response to this, a set of strategies are deployed to match the crisis situation, designed to simultaneously contain damage and restore reputation (e.g. corporate image, brand reputation).

The process begins with what is colloquially known as 'damage control' where:

> (a) the objectives are to contain the damage (whether that is an unsafe product or a toxic environmental spill);
>
> (b) to restore the company image and reputation (e.g. brand reputation or social responsibility image); and
>
> (c) to regain public trust (whether that is consumers victimised by unsafe products or communities victimised by environmental toxins).

As noted by Ettenson and Knowles (2008), 'corporate image and brand reputation, although different, are interconnected where damage to one can weaken the other'

> A 'good' reputation can garner the goodwill of politicians and the community in which companies operate. But a company's reputation can be affected by a variety of factors, including but not limited to executive leadership, financial performance, innovativeness, treatment of employees, workplace diversity policies, handling of ethical issues and commitment to the environment. The strength of a brand, on the other hand, depends on how well it has fulfilled its promise to customers over time (Ettenson and Knowles at http://sloanreview.mit.edu/article/dont-confuse-reputation-with-brand/

In these cases strategies were deployed during different phases of the crisis –*before* (to neutralise anticipated responses), *during* (to neutralise responses to the crisis by key stakeholders) and *after* (to neutralise the effects of penalties and prosecutions). Action taken prior to the crisis included preparation of Question and Answer pro-forma anticipating stakeholder questions and scenarios that may arise in response to the crisis. Action taken during the crisis included public statements and

press releases: messages of apology and regret paired with messages of reassurance to affected groups. These were interspersed with messages about the company's past or present achievements in business excellence, philanthropy or as a socially responsible corporate actor, whilst at the same time deflecting attention away from themselves to others. Afterwards, there were public statements defending the company's position on a particular topic and/or reputation, denying past events, denying 'knowingly' committing offences, denying wrongdoing, and wherever possible deflecting blame and therefore responsibility.

Table 10.2 presents these processes of crisis management as a series of stages. Stages 1 to 4 may repeat themselves if there is a recurrence of the same or a similar problem, leading to a repeat (or extended recall).

Table: 10.2: Stages of the Product Recall Crisis and Responses: This Study

Stage	Events	Description	Response Strategies
Stage 1	Precursor	After discovery but before disclosure to the regulator *Assess the crisis*	Concealment Avoidance Delay Internal investigation
Stage 2	Post disclosure	Following disclosure to the public	Apologies Statements of Regret Assurances
Stage 3	Recall	Following official recall announcement	Instructions Reassurance Regret
Stage 4	Remedial	Responses to unsafe toys	Corrective Action Public Hearings (Event)
Stage 5	Aftermath	Accusations made and penalties imposed	Allegations Denials
		Posturing and repositioning	Redesigning Rebranding Repositioning

Managing reputational assets as Coombs (2002) note is what strategic communication is all about. Mattel for instance, worked hard to both defend and restore their image as 'the trustworthy company' (Woo 2008: 3). Others might work to defend and restore an image as 'the ethical company', 'the socially responsible company', the responsible employer', the 'leader in their sector' and so forth. Companies pull out 'the goods' (ethical accolades, no history of previous recalls, good corporate citizen) at a time of public crisis, to balance the 'bads' (in these cases poorly designed or adulterated products).

For RC2 Corporation it was the image of a company that sold intergenerational favourites and the reputation of one of its most high-profile brands, Thomas™ and Friends. For Schylling Inc. it was the image of a company renowned for making good quality 'classic toys', the old favourites like spinning tops and the reputation of one of its most high-profile brand, Thomas™ as well as Curious George™. For Mattel Inc/Fisher-Price it was the image of the 'trustworthy company' (Woo 2008), and the reputation of some of its most high-profile brands including Polly Pocket™ (for magnets) and Dora the Explorer™ (for lead). For Australian company, Moose Enterprises, it was protecting the image of the innovative company and the reputation of one of its most successful toys, Bindeez™ beads, named toy of the year in 2007. For Rose Art/Mega Brands it was protecting the image and reputation of one of the world's most popular toys, Magnetix™ building sets.

But in the wake of the recalls what will stick in people's minds is not Thomas™ or Magnetix™, or Bindeez™ or Dora the Explorer™ or Polly Pocket™, but China, Made-in-China and Chinese manufacturers. This is despite the fact that two transnational corporations, Mega Brands/Rose Art and Mattel Inc were responsible for poorly designed toys from which magnets dislodged. For instance of the total toys recalled by Mattel approximately 18 million involved loosely attached magnets and only 3 million involved lead contamination. As Bapuji and Beamish (2007) note in a study on the 2007 recalls, the majority of

recalled toys were for a design fault (in America) rather than a manufacturing defect (in China).

Mattel Inc was widely praised by some 'experts' for its handling of the crisis and was generally self-congratulatory about its own performance and to their credit was the only toy company to provide oral testimony at U.S. Senate Hearings. However, as Woo (2008:2) notes in an analysis of the Mattel recalls, 'the USCPSC's subsequent revelation that Mattel first suspected lead contamination in early June, a good two months before it announced the first of four recalls on August 4 [2007] has overshadowed much of what the company claims it did right'.

Mattel's track record, although not well-publicised, was also tarnished by the events leading up to the magnet-related recalls. The company first learned a child had been injured by magnets in July 2005, four months before a rival company's (Mega Brands) product (Magnetix) killed a child in November 2005 and well before Mattel's first recall for Polly Pocket in November 2006. In fact, this incident did not emerge in the public domain until August 2007, when the child's mother broke her silence. She lamented that Mattel had not recalled the toy two years earlier (in 2005) when her child was injured, telling the media at the time of the expanded recall for Polly Pocket™, that she had sued Mattel so other children could avoid the pain and suffering her daughter experienced.

> "How many other kids could have not made it because of this toy? And it's hard because you don't want to see somebody else go through what you had to go through" said May (mother of Paige quoted in Brilliant, *Eyewitness News*, 2007).

With the benefit of hindsight, her lawyer felt a similar level of betrayal by the company:

> "I thought that I'd been hoodwinked by Mattel" said Gordon Tabor, the attorney who represented Paige's family. He says he was shocked to learn of this week's recall [in August 2007] for the same problem that existed two years ago [in 2005]: deficient adhesive on the magnets (Tabor quoted in Brilliant, *EyeWitness News* 2009)
>
> "We had assumed that the recall of November 21st of 2006 solved the issue of safety with children using this product", Tabor said (Tabor quoted in Brilliant, *Eye Witness News* 2009; See also Oppenheimer 2009: 292)

Had this revelation been publicly known at the time of Mattel's first recall in November 2006, the company's trustworthy image would have been severely dinted, because their actions certainly did not live up to their corporate values, their rhetoric in the public domain, or their corporate social responsibility agenda.

But Mattel's reputation as an experienced manufacturer of safe toys through its China supply network was hailed as exemplary in the months before the recalls. In an article published in the *New York Times* on 26 July 2007 'Mattel was one of only two toy companies to allow the New York Times to visit its China plants. The New York Times article commended Mattel's product safety inspection procedures, which it maintained had improved since the Power Wheels™ recall'. (Woo 2008: 6). Yet Mattel Asia Pacific (MAPs) found out about lead on certain of Mattel's toys on 7 June 2007 and senior executives in head office learned about the trouble with lead on 12 July 2007. So when Mattel gave its interview on 26 July (hailing them as an example of safe manufacturing in China) they knew their product safety inspection procedures were not above reproach and perhaps that is why they said at the time 'we

have holes'. As Woo (2008: 6) points out, 'some toy analysts were reluctant to blame the company for the lead paint crisis:

> "If something like this can happen to Mattel, which has some of the most stringent standards in the industry, what does that mean for the other manufacturers of such products?" argues Richard Welford of CSR Asia Weekly.
>
> The recall is particularly alarming since Mattel, known for its strict quality controls, is considered a role model in the toy industry for how it operates in China" (cited in Woo 2008: 6)

At the time RC2 recalled lead-contaminated Thomas & Friends ™ in June 2007, Mattel was being congratulated for its safe history of production in China. But these accolades would come back to haunt the world's largest toy company, who as well as having recalled millions of faulty magnetic toys in November 2006 was also faced with the recall of millions of lead-contaminated toys in 2007, as well as massive recalls for magnetic toys. This constituted the largest recall in the company's history since 10 million Power Wheels™ toys were pulled off store shelves during the 1990s due to a potential fire hazard.

Companies will attempt to balance their reputational assets (goods) and liabilities (bads). Balancing the 'goods' and 'bads' involves pulling out the 'goods' (e.g. ethical accolades or a blemish-free record of safety) to balance the 'bads' (unethical practices, unsafe procedures). As Lin 2007:210) suggests:

> Inherent in the 'metaphor of the ledger' as a neutralisation technique (Klockers 1974) is the idea that individuals are entitled to indulge in deviant behaviours insofar as they have accrued good credits in the past that can be "cashed in" later, to excuse the misbehaviours they engaged in. The individuals' guilt would, thus, be assuaged since good credits are cashed in for bad

ones, leading to an equilibrium between good and evil acts (Hollinger, 1990; Minor, 1981 cited in Lin 2007: 210).

For instance, a corporation, in times of crisis, might draw upon accolades for ethics, or little or no history of producing unsafe products, as 'goods' to be "cashed in" during a crisis.

Denial and Crisis Management Scripts

What this study found is that companies typically engaged in responses that routinely relied upon virtually the same 'denial scripts'. These crisis management strategies unfolded as follows:

- A problem is discovered, often by a third party and reported to the company concerned (e.g. lead in toys) or an incident occurs that is so serious that it simply cannot be ignored (e.g. a fatality or serious injury from magnets dislodging from toys);

- The company either chooses to notify the relevant regulator immediately (24 hour reporting rule in the United States, 48 hours in Australia) or chooses to delay notifying the regulator and conducts an internal investigation to get to the bottom of what happened and who did it (why they did it is rarely answered);

- In the company's time, the regulator is notified of the hazard and incident/injury data is either declared (or not). In one case in particular, the nature of the hazard and the true scale of the problem was hidden from authorities;

- The events become public knowledge, either through the media acting as a whistle blower or a public announcement by the relevant regulator (e.g. official recall);

- Apologies or statements of regret are made by the company and messages of assurance are offered to those affected, often accompanied by surprise at what has been found or what has

occurred and a promise that everything will be done to make sure that whatever it is does not happen again, and that an internal investigation has been launched to determine what happened and who is at fault;

- In the meantime, a plan of corrective action is rolled out by the company, sometimes a revamping or strengthening of procedures that are already in place in some form, or ought to have been in place as part of a rigorous risk management program. Sometimes that corrective action is modelled directly on a similar crisis, considered to be an industry sector exemplar;

- The company's internal investigation subsequently reveals that what occurred was somebody else's fault, usually an intermediary – a contractor or sub-contractor of some type – either conveniently headquartered in a different jurisdiction or country or operating a facility in a different country (e.g. Chinese contract manufacturers);

- What follows is a series of announcements from the company and the regulator as the crisis moves through several different stages. From the company the messages are primarily ones of reassurance (to consumers) and messages of condemnation for the scapegoat(s) – in these cases China (the nation state), Chinese contract factories (the companies) and 'Made In China' (the brand);

- Experts of various kinds (academic, global consultants, business ethicists) are drawn upon by both the media and companies to validate the tone of public messages, also playing a part in shaping public perception;

- Meanwhile behind closed doors the company goes into damage control, once the regulator is advised the company and the regulator (together) thrash out the wording of the recall notice in

the context of an accommodative or retaliatory relationship between the two organisations which sometimes sets the tone for the ensuing crisis;

- A set of strategic announcements from the company and the regulator evolve as the crisis moves through several different stages to its final resolution. These are typically messages of reassurance for affected publics;

- Sometimes the event recurs (e.g. expanded recalls for same products, same problems) or the corrective action implemented fails to prevent a recurrence or resolve the issues;

- A second round of apologies and more promises that the situation is under control and in some cases an acknowledgement that 'we found the problem ourselves this time', as if that is somehow reassuring;

- A message of reassurance to affected publics that everything is under control and that the company is co-operating with all the relevant authorities;

- What becomes apparent to bystanders (public, advocates, politicians) is that although the events are a business as usual risk, there appears to be no pre-determined contingency plan(s) in place to deal with the unfolding crisis;

- In the interim:

    - the media, politicians and others 'bag' the company, and some also assist in scapegoating the scapegoat (in this case China);

    - the regulator comes under close scrutiny because of the way in which it has been allowed to 'run down' and has been rendered toothless by underfunding, under-resourcing and

redundant technologies (in these cases antiquated testing laboratory);

- The companies concerned 'empathise' with the regulator's demise and at industry body level make noises about supporting the strengthening of legislation to ensure public safety. In other cases, industry groups may resist strengthening of the legislation;

- Official enquiries are held in highly political and emotive environments, with politicians demanding to know what happened, what took so long, who was to blame, at the same time providing a necessary forum and a 'voice' for consumer advocates and the families of those killed or injured.

- New or improved legislation is introduced, more frequent and rigorous testing, new thresholds for toxic substances, improved technologies for attaching magnets and greater co-operation between Chinese, American and European regulators to make sure these things don't recur;

- The crisis moves out of the global media and companies, albeit sometimes suffering economic and reputational losses, return to business as usual or in some instances are swallowed up by competitors;

- Usually one or two years later, the regulator makes certain allegations in a civil settlement agreement and imposes a fine and the perpetrators deny any wrongdoing, until the next time.

This crisis management strategy is basically a Western business model, however. In the context of global production processes and the transference of toxic toys around the world, things can get more complicated once 'China' is brought back into the equation.

Conflicting Cultures

In trying to understand the techniques of neutralisation used by both Western and Chinese companies to defend their actions, I drew extensively upon two studies in the Chinese context. The First, a study by Ye and Pang (2011), on 'the Chinese approach to crisis management' in the context of the Sanlu milk scandal and the second a study by Peijuan, Lee and Augstine (2009) examining the Chinese government's image repair efforts during the Made in China controversy.

The West is quick to point the finger at the East concerning corruption and other practices, but slower to recognise that western companies exhibit behaviour that is not so different, albeit, less visible, and attracting a different label. This also raises the question of how sensitive the techniques of neutralisation are to cultural nuances and differences in approaches to establishing and sustaining commercial relationships, such as those that sustain supply chains, in these particular cases, the relationship between toy companies and their Chinese contract factories or vendors. This represents a substantive area for further research.

In their study of how Sanlu (a Chinese company) managed the melamine-contaminated milk scandal, Ye and Pang (2011: 247) provide insight into the Chinese approach to crisis management, which they argue 'remains mired in values that differ from best practices of effective crisis management'. The types of strategies observed by Ye and Pang during the contaminated milk crisis are summarised in Table 10.3.

Table 10.3: Chinese Crisis Management Strategies

Cover-up and denial	When encountering a crisis where an organization could be culpable, Chinese organizations usually choose ''not to publicly communicate the full extent of crises and are deceptive in their reporting of various incidents'' (Yu & Wen, 2003: 51, cited in Ye and Pang (2011: 262)
Taking the "upper level line"	For the organization, it means to have problems, or crises, solved with the help of the government. Chinese organizations in crisis usually ''spend much more time taking the 'upper level line' than dealing with the media'' (Liang, 2005:15) as they believed the government could protect organizations from the media siege by controlling the media or keeping silent
The Third Party	organizations often use the prestige of experts to boost their credibility, or ask experts to speak on behalf of the organization
Silence	Keeping silent is one of of the golden rules in Chinese crisis management During a crisis, Chinese organizations believe that if the organization is not sure what comments should be made or if there is no better way to put the organization in a position of agreement with public opinions, keeping silent is better than ''making blatant comments'' (Xu, 2006:21 cited in Ye and Pang 2011: 263)

Source: Tabulated from Ye and Pang (2011: 262-263).

The Chinese response to a spate of recalls for toys and food was to 'launch a four month crackdown on product safety, resulting in more than 600 Chinese toy makers having their export licenses revoked to ensure product quality

The State Administration for Quality Supervision and Inspection and Quarantine (AQSIQ) announced:

> "We have thoroughly inspected all 3,000-plus toy makers for export during the rectification work that began last August [2007]," said AQSIQ Deputy Director Pu Changcheng at a press conference in Beijing "We have also set a complete quality test system. All toys, even those that are made based on designs and standards by importers, are subjected to safety checks," he told

> reporters."The overall quality of Chinese-made toys will be further improved and safety will be fully guaranteed," said the official (Xinhua News Agency 14/1/2008 cited in Peijuan et al 2009).

'While acknowledging problems in some domestic manufacturers, Pu noted several toy recalls in 2007 were due to design flaws or change of standards by foreign importers (Xinhua News Agency 14/1/2008). In response, Chinese product safety authorities said at the time that the latest lab tests in China have shown that toys recalled by Mattel Inc. for a third time are up to the Chinese and European standards and are safe for children around the world (Xinhua News Agency 12/09/2009 cited in Peijuan et al 2009).

At one stage it was argued that the problem was that the United States imposes a different measurement of lead content from other countries, according to the General Administration for Quality Supervision, Inspection and Quarantine (GAQSIQ) (Xinhua News Agency 12/09/2009 cited in Peijuan et al 2009: 215)

> The GAQSIQ said that China and most other countries determine the safety of toy based on the lead release, or the amount of lead dissolvable out of toy paint, which may be harmful to human health. China requires the lead release should be kept under 90 mg per kilogram, which is in line with the international standard (ISO8124-3) and the European standard (EN 71-3). But the United States adds an extra standard to limit the lead content to 600 mg per kilogram, the administration said.

Difference in standards was a main reason why the country's exports to some countries were frequently alleged to be problematic in quality, said the watchdog (Xinhua News Agency 12/09/2009 cited in Peijuan et al 2009

Pejuian et al (2009:215-216), in a critique of the Made-In China' crisis, outline the key strategies deployed by China to diffuse criticism:

Stage 1: Initial Response

Denial and bolstering were common strategies used by China to diffuse criticism. When high levels of lead were found in Chinese made toys, 'even as China engaged in denial, it used the strategy of bolstering to argue for the safety of the toys (China says toys recalled by Mattel safe, despite some failing U.S. standards 2007) (Xinhua News Agency 18/9/2007 cited in Peijuan et al 2009: 215). Subsequently China promised corrective action, to crack down on counterfeit certification symbols.

Stage 2: Intermediate action

'To protect its reputation, China used strategies that helped to reduce offensiveness. For instance, the strategy of bolstering was evident when China argued its quality of toys was of high quality (Blanchard and Lin 2007 cited in Peijuan et al 2009: 215). Apart from bolstering strategies, the Chinese government also employed the strategy of denial, specifically shifting blame to isolate the "bad apples" …mistakes made by certain companies should not tar the overall image of the government' (Xinhua News Agency 2/8/2007, cited in Peijuan et al 2009: 215).

'Attack the accuser was another strategy China used to fend off accusations of product failures, like how it warned the US not to exacerbate the problem. At the same time it argued that it was "unfair and irresponsible" for the US media to single China out"(Peijuan et al 2009: 215).

Stage 3: Remedial Action

As China faced mounting international backlash over unsafe product, it began to engage in the strategy of corrective action. To rectify the crisis, China revoked the licenses of over 700 toy companies and guilty officials were also detained (Four Chinese detained for involvement in Mattel toy recall 2007) (cited in Peijuan et al 2009: 215).

> China's strategies in the initial and intermediate stages appeared confusing because of the mixed signals it sent. It generated the image of a country that was hurried and harried; its responses appeared piecemeal. On the one hand China attempted to defend itself by engaging in strategies of denial and bolstering. On the other hand, it wanted to avoid escalation of the crisis by attempting to assuage its accusers that it would correct the problems. However, over time, as it became acquainted with the extent and nature of the crisis, it unequivocally promised to correct the problems. (Peijuan et al 2009: 216).

'Face-saving is an important communication device in Chinese culture. Protecting one's face helps to preserve one's dignity and empower oneself, especially if the audience is an important one (Lu 1994 cited in Peijuan et al 2009: 216). 'Thus when a nation admits guilt, embedded in corrective action could be an implicit mortification to save face'.(Peijuan et al 2009: 216).

Conclusion

This chapter has examined the types of strategies used by toy companies (in the west) and their supply chain partners (in China) to neutralise the harms they caused by producing and distributing toxic toys containing lead and magnets into the stream of commerce. Companies typically deployed strategies aimed at containing the damage, whilst simultaneously deploying countervailing strategies to bolster corporate image, restore brand reputation and regain consumer

trust. Although these companies may not have set out to 'knowingly' manufacture toxic toys, empirical data (e.g. USCPSC Settlement Agreements, litigation outcomes) suggests that most of these companies did have 'knowledge' of specific hazards in their supply chains (e.g. lead in paint) in their own toys and/or competitor's toys (e.g. rare earth magnets), sometimes well in advance of the regulator and certainly well before the public were abreast of this knowledge. In some instances, information critical to assessing the nature and scale of the hazard to protect consumers was withheld from the U.S. regulator (e.g. Mega Brands case). All in all, consumers were the very last to find out about toxic toys. Sometimes the media were the informants, sometimes third-party testers, sometimes mega retailers conducting their own tests, and tragically sometimes children died or were seriously injured.

To address the politics of denial, we must begin with the politics of knowing (See Cohen 1997). Denial relies on being in possession of some measure of knowledge of having done something (White, 2008). In this study who knew and when and what they did with that knowledge are important questions, because the answers to those questions help to explain why companies (and sometimes also the regulator) took so long to respond to the issues in the form of an official recall. Sometimes revelations by the regulator (e.g. in Settlement Agreements agreed by offenders up to three years after the actual events) provide new insights into corporate misconduct (e.g. delay in disclosure, deception, stonewalling). What the offending parties (e.g. toy companies, supply chain partners and sometimes also the regulator) knew is crucial to understanding what they denied however this occurred (e.g. through concealment, outright denial or denial by omission).

In the case of product recalls for unsafe toys, companies typically had knowledge of incidents and injuries related to a particular hazard (lead, magnets) either in their own products or a competitor's products months *before* they declared those hazards to the regulatory authority.

What is at issue here is the *timing* of that knowledge – who knew, when did they know – and the *actions* taken in response to that knowledge – what they said and did that is at the heart of this analysis. These types of corporate harms fall between criminal and tort law, but result in harm(s) of significant magnitude. By the time the symptoms show, the effects can be irreversible and the ongoing suffering of children (and their carers) in terms of health and special education costs caused by toxic toys can be considerable. What is most disconcerting is that there seems to be a 'recipe' as to how narratives of rationalisation and denial play out in the public domain, across wide-ranging crises.

Conclusion

This study found that toxic harms are on the move across geographical and jurisdictional borders. It has sought to conceptualise these flows in a particular way, through the lens of transference, where this refers to the movement of something from one person (entity) or place to another, and where toxicity refers to the degree to which something is 'poisonous' to someone or something. Moreover, the concept of transference constitutes the original contribution this research has made to the field of green criminology. In particular, this study raises questions about the invisibility and potential mobility of certain types of harm, around the globe.

This thesis began with a carcinogenic toxin inside a children's toy, well before the issue of toxic toys was on the horizon. That toy was the catalyst for thinking about harm as dynamic rather than static, and toxic harms as inherently mobile and therefore, subject to transference. It prompted me to think about the potential mobility of different forms of harm, their trajectory across the world, and the consequences for bodies (all species), places of habitation (where species live and move and have their being) and nature (air, water and soil) those elements that sustain life on planet earth.

The hazards found in children's toys are representative of just some of the toxic harms that are flowing across borders and the global supply chain and distribution network is only *one* conduit for the transfer of toxic harms. In this particular instance, companies large and small were implicated in lead and magnet-related recalls which came as a wake-up call for the toy industry, and a reminder that off-shore manufacturing does carry risks.

The thesis began by conceptualising and mapping the movement of different toxic harms across the world, not only propelled by the mechanisms of globalisation (e.g. globalisation of trade and the vehicle of the product supply chain), but also by the forces of nature (air and

sea currents). The concept of harm transference is an emerging theme in green criminology and a key argument throughout this thesis. There is an emphasis on how the actions and activities of individuals and companies in one part of the world can have serious consequences for local bodies, places and natural landscapes in other parts of the world, often geographically and morally distant from the means of production.

This study has exposed what appears to be a scripted set of responses and strategies on the part of those doing the harm. At one level toy companies may have been unaware of the systemic outsourcing and sub-contracting practices occurring in the manufacturing sector of their supply chains in China. However, the 'sameness' of their responses (e.g. corrective action that revamped or strengthened existing processes rather than introducing new innovations) is symptomatic of protecting the corporate bank balance and company reputation as key priorities, rather than dealing with harm or victims per se.

In the case of leaded paint a Guanxi approach to business may have facilitated the 'admission' of local Chinese contract factories into the extended toy supply chain. Nonetheless, Western toy companies took their eye off risk management and quality assurance in their extended supply chains, relying instead on relationships of 'trust' rather than rigorous processes of enforcement, monitoring and verification. It is as much about arms-length governance and, perhaps about western toy companies as 'outsiders' in the microcosms of capitalism and democracy that artificially exist in special economic zones like Guangdong province ,than about procedures and processes.

In this context toy companies became 'outsiders' in a network of 'insiders' who unofficially became a part of their supply chains, apparently without their knowledge. Perhaps they always were 'outsiders' and it is relationships across oceans, continents and cultures that require re-working as much as the systems and processes that failed children everywhere who were exposed to toxic toys.

This study demonstrates the downside of 'globalisation in action' (e.g. the supply chain and distribution network), particularly a world in the grip of grim economic, military and social conflict. As well, the effects of extreme weather-related conditions can cause significant disruption to the off-shore (or international) components of a supply chain. No amount of border surveillance or increased regulation will prevent adulterated products from transferring across borders. Surveillance can only hope to catch a tiny proportion of contaminated products and regulation can only protect consumers if companies are willing to divulge product hazards to the regulator in a timely way, and the regulator to consumers.

In this type of business and production context, only certain types of regulation will prevent these types of incidents from recurring. What is required is a holistic approach to supply chain management, one that not only focuses on 'relationship building' across continents, oceans and cultures, but also involves enforcement, monitoring and verification of specifications and standards. A supporting strategy might consider a fairer system of profit-sharing that does not penalise developing countries and that acknowledges and pays for the export emissions (pollution by foreign companies) of local people and their environments.

What these cases have demonstrated is just how difficult it is to manage not only the hazards themselves, but also the 'relationships' (political, economic, corporate and jurisdictional) that arise when something goes wrong in a part of the world over which a company has no real jurisdiction. Questions that emerged over the toxic toys included: Who is responsible? Who will pay? Who will insure the harm? For example, lead paint originated in China, but injured children in multiple countries where the toys were imported. Poorly designed magnetic toys by certain Western toy companies were responsible for magnets dislodging into children's domestic and community play settings and injuring unknown numbers of children across the world. Ultimately,

the toy company (headquartered in the west in these cases) is responsible for risk management, security and governance in its extended supply chain (typically built into the price of a toy) and for the safety of the toys produced.

What off-shoring does is provide a buffer between the company (on-shore in the West) and the hazard produced (off-shore in the East). What this also demonstrates is that transnational corporations only have so much influence when something goes wrong in another country (where they have facilities), but where there are differing political, philosophical, and economic views of the world and where business cultures (e.g. Western versus Guanxi) are quite different. When harm occurs beyond geographical, cultural and jurisdictional boundaries, new strategies need to be developed to address both the global and local dimensions of the harm. This involves governments, corporations and regulators, with sometimes very different views of what has happened, who knew and when, and what they did with that knowledge, being forced together under crisis circumstances, to try and resolve the issues.

Blame-shifting was commonplace up and down the supply chain, but toy companies (in the west) cannot so easily absolve themselves of their responsibility for producing unsafe toys. This is about shoddy (poor design) by toy companies in the West (magnets not secured) and shady (using lead paint) practices by their supply partners in China respectively. Regulators, too, should not dismiss the role of mega retailers and large discount chains (who also directly import own-brand toys in huge volumes) in the production of lead contaminated toys, especially the denial of a known risk (lead paint) in the manufacturing sector of their supply chains, in these cases in China. The issue needs to be addressed at the source of the flow (in other words rigorous testing of raw materials like paint and paint pigment, monitoring of same and documentary evidence), random batch testing and finished product testing. This provides potential points of intervention for the detection

of adulterated products before they are distributed to consumers. In the case of magnetic toys the potential points of intervention are at design and development (especially testing stage), but also noticing and reporting anomalies (e.g. magnets dislodging) during assembly and packaging.

The focus on China, Made-in-China and Chinese manufacturers, obscured the wider issues that may underlie the adulteration of products (e.g. open/closed networks and different styles of doing business between China and the West), and poorly designed toys (speed to market, tunnel vision in testing e.g. too much emphasis on the durability of a toy, sharp parts or small parts, rather than the potential for contaminants and components to migrate from toys. Hence, this study's suggestion that the concept of horizon scanning (forecasting future harms) and transference (the potential mobility of harms) might be useful to add to the risk assessment toolbox not only for toys and their constituents, but also for the risks associated with supply chain activities wherever they occur. In the context of transference, risk assessment might include questions such as: Can whatever is being produced, consumed or disposed of gain mobility? If so what might be the mode (e.g. supply chain) or media (e.g. water, air, soil) of transference, how far might that harm travel? (e.g migrate from a toy; ooze or seep across borders) and if it does, what are the likely consequences for bodies, places and nature? Horizon harms for toys include liquids, powders and gels of unknown origin, the prolific use of button cell batteries in everyday products and nano materials (already incorporated into some plush toys). All of the above are potentially mobile and subject to transference.

The production of toxic toys and the strategies deployed by corporate actors to mitigate those hazards represents a substantive area for further research by green criminologists (perhaps under the rubric of green criminology and new deviancy). In the cases presented here, not only did companies produce and distribute toxic toys, they also

deployed specific denial and mitigation strategies to rationalise their behaviour and moderate the harms they caused. These actions (inactions and reactions) had significant flow-on effects for people, places and nature:

- the pollution of bodies (e.g. foreign factory workers exposed to supply chain toxins like lead, where this was localised to Guangdong Province, China where the toys were made
- the potential poisoning of children who mouthed the toys in the countries of import (e.g. mostly in the developed world) but also Chinese children in the country of export
- serious and sometimes lasting injuries to the intestines of children who ingested multiple magnets that dislodged from certain poorly designed toys
- emissions to air, water and soil (in these cases localised to Guangdong Province, China), not only from normal manufacturing processes (e.g. export emissions), but also from the spraying of lead paint on toys (lead dust) and the likely release of contaminated wastewater (to soil)
- emissions associated with en masse disposal of contaminated raw materials (e.g. lead-contaminated paint in China) and contaminated products (e.g. lead-contaminated toys) was an overlooked and under-researched ecological concern in these cases
- emissions associated with individual household disposal of toys (e.g. recalled toys to household trash) and en masse disposal of contaminated toys containing both lead and magnets (in the countries of import) either to landfill (emitting greenhouse gases) or incineration (emitting dioxins to air), ultimately contributing to climate change

A number of recurring questions arose throughout the toy recalls, which sum up the key issues addressed in this thesis:

What took so long? This question was raised by politicians, the media, advocacy groups and consumers alike. Typically this question related to the disclosure of critical information between the company and the regulator (e.g. disclosure of a product hazard within the 24 hour reporting timeframe); and between the regulator and the public (timeliness of official recall announcements). As more and more information came into the public domain, people became frustrated by these time lags, particularly since they exposed children to toxic toys for a greater period of time.

Which toys? Many of the recall alerts contained ambiguous or confusing wording, so that consumers and retailers found themselves continually asking, 'which toys'? In some instances, toxic and non-toxic toys were packaged together (e.g. RC2's Thomas toys), in other instances, consumers were unsure which toys were being recalled due to issues surrounding differentiating new improved versions from old versions (in the case of Magnetix™ building sets) .

Why are the toys still out there? Reports of toys still on retail store shelves in the aftermath of the recalls were not uncommon, with toys being found on internet sites sometimes well after the recall date. In the case of Magnetix™ knock-off toys also became an issue. There were fears too, that recalled toys may turn up in informal markets like second-hand and charity outlets as well as market stalls.

How many incidents and injuries? Issues of delayed disclosure, non-disclosure and partial disclosure compromised the safety of children and made it more difficult for the regulator to assess the true nature and scale of hazards. This was particularly relevant in the case of magnets where both Mega Brands (for Magnetix™ and Mattel (for Polly Pocket™) concealed information in different ways, Rose Art/Mega Brands by withholding significant incident and injury data, and Mattel

Inc by settling an injury case (that occurred in July 2005) behind closed doors, well before a child died from a competitor's toy (Magnetix™) in November 2005.

Who is to blame? Which country?, which company?, which brands?, whose standards? Which thresholds? and whose specifications?, were all issues on the table. But, in practice, assigning blame was politically fraught and blame-shifting was commonplace.

Who will compensate the victims? This especially becomes an issue when the origins of the adulteration (e.g. lead) occur in one country but the harm to consumers (children) occurs in multiple countries. Class action law suits seemed to be the order of the day, however the communal nature of these actions functions to render the experience of individual victimisation less visible and takes no account of ongoing suffering or the costs associated with that.

Where are the toys now? The topic of disposing of contaminated toys was raised but not seriously discussed, but the issue of disposal of contaminated raw materials (e.g. lead paint and paint pigment in China) was not widely discussed, at least not in the Western media.

Who knew and when? In the face of allegations from the USCPSC, companies typically denied that they 'knowingly' produced and distributed unsafe toys into the stream of commerce. But these cases indicate that, although companies may not have 'knowingly' done so toy companies (like RC2 Corporation, Schylling Inc and Mattel/Fisher-Price) did have 'knowledge' that lead paint was a risk in their extended supply chains in China. Likewise, both Rose Art/Mega Brands and Mattel were aware of incidents and injuries leading up to their first official recalls (March 2006 for Magnetix; November 2006 for Mattel). They knew that certain of their toys had seriously harmed children (with incidents dating back as far as early January 2004 in Rose Art/Mega Brand's case and at least July in Mattel's case.

What did they do with that knowledge? is critical to understanding what happened. What they did was to either delay disclosure (e.g. companies routinely breached the 24 hour reporting rule for a product hazard), outright deny they had the requested incident and injury data and/or drip-feed information to the regulator (in Rose Art/Mega Brand's case), information critical to the regulator being able to accurately access the true nature and scale of the harm. The net result was that the public was always the last to find out unless the media blew the whistle, as they did with Schylling Inc spinning tops and pails (although journalists did advise the company of their findings in advance). The flow-on effect was that children everywhere were exposed to unsafe toys for longer than necessary, with some arguably sustaining preventable injuries, had disclosure occurred in a more timely fashion.

How can things be different? Although the shift from voluntary to mandatory standards for toys is admirable, no amount of regulation or surveillance at the border will prevent further instances of the adulteration of toys with lead (or other toxins) or the migration of deadly magnets (or button cell batteries) from toys. These issues must be dealt with at their source and involve co-operation between toy companies and their supply chain partners in the first instance to put in place rigorous enforcement, monitoring and verification processes that are free from corruption. Greater attention also needs to be paid to what is in a toy (at both design and development, manufacturing and disposal phases of the supply chain), in terms of what can gain mobility and migrate from that toy whether that be toxic contaminants like lead, cadmium and phthalates (chemicals to make plastic soft), button cell batteries, rare earth magnets or nano particles.

Improved communication between toy companies and the organisations that comprise their extended supply chains (driven from parent company CEO level down) as well as awareness and respect for cultural difference (both ideological and commercial) would help smooth the flow of non-toxic products. Communicating standards, specifications and expectations in the language of the country where those products are made (e.g. in this case China) could also assist, as would building a shared vision for keeping toys safe for children everywhere (not just children in the West), and especially for poor children and children living with (and sometimes working with) lead and other harmful toxins in their everyday environments. For these latter children, a little bit of something in a toy represents another layer of poison. Implementing systems of reward (e.g. profit-sharing incentives for product quality excellence) might also encourage greater commitment to product safety. Western toy companies have the know-how and resources to continuously improve the safety of their products wherever they are made and sold.

I can't help wondering that if magnets were dislodging from new toys, the same may also have been occurring during assembly and packaging by factory workers in China. One way of addressing this would be to encourage a culture of transparency throughout the extended supply chain. This could be achieved by workers (in China) bringing this type of anomaly to local management attention (without incurring a punitive response), and by Chinese supply chain contractors being able to immediately alert western toy companies (perhaps through an electronic notification to someone with decision-making authority) without being penalised (e.g. cancellation of their contract). This approach might go some way to reducing the 'them and us' scenario that transpires when things go wrong, thereby fostering a culture of 'disclosure' rather than 'denial'.

Regulatory agencies need sufficient leverage to take the upper hand when dealing with corporate misconduct, and fines ought to reflect not only the seriousness of the conduct, but also be proportionate to the corporate purse. Fining RC2 Corporation (a medium sized company) the same amount as a much larger transnational like Mattel/Fisher-Price (remembering the fine applied to two companies here) seemed disproportionate to both the corporate purse and the lesser level of deviancy exhibited by RC2 when compared to some of the other companies. Having said that, Schylling Inc's attempt to influence the size of the penalty handed down by the USCPSC was another thing altogether. Fines should encourage desistance rather than an attitude of deterrence, until the next occasion.

As already suggested, toy companies might think about building the concept of transference into their risk management toolbox (e.g. consider the potential mobility of what is in a toy, what a toy is made from, and the upstream, midstream and downstream emissions associated with the lifecycle of the toy itself). Consumers do have a right to be alerted swiftly to product hazards, especially those that have the potential to kill. They have a right to know what is in a product and what might potentially migrate from that product, so they can make an informed choice about whether they want to buy it (or not).

Returning to the key research question: what ideological and social processes facilitate the global transference of toxic harms? The answer is a number of different things: systems, processes, institutional structures, differing ideologies, mechanisms of globalisation and quite simply, wrongful behaviour. Global political economy provides the overarching context within which harm to our children occurs. But, in the end, it does not excuse those responsible for what is, after all, human-induced harm. Toxic toys are an issue that is fundamentally a matter of environmental justice. As such, it ought to be studied taking

into consideration questions of power, ownership, control – and resistance. Exposing the harm and its movement via transnational transference and global supply chains, and exposing the harm of perpetrators and their techniques of neutralisation, is an important part of this process. This, I hope, is a key contribution of the present thesis.

Appendix 1: Magnets - The Full Time Line

2000		
When	**Who Knew**	**What They Knew**
Mar 2000	USCPSC	An 8 year old Atlanta boy undergoes intestinal surgery after he swallows small magnets that fall out of a broken fast-food meal toy (Callahan 2007a).
2003		
Jan 2003	Rose Art	Rose Art launches Magnetix™ building sets, labelling them safe for children as young as three years old (Callahan 2007a).
Oct 2003	USCPSC	A six year old Indiana girl suffers intestinal trauma after accidentally swallowing powerful magnetic jewellery bought at a State Fair, which she used to mimic a tongue piercing (Callahan 2007a).
Nov 2003™	USCPSC	The surgeon who attended to the six year old Indiana girl (cited in the row above), alerts the USCPSC 'to expect more of these types of injuries if products with such magnets are marketed to children' (Callahan 2007a).
Late 2003/Jan 2004	Rose Art	Rose Art begins receiving complaints about magnets falling out or liberating from 26 different types of Magnetix™ building sets, but fails to notify the USCPSC (USCPSC Settlement Agreement Mega Brands 2009).
2004		
Apr 2004	USCPSC	A Lewisville NC grandmother warns the USCPSC that 'a small child could easily swallow these loose magnets' (Callahan 2007a).
Oct 2004	Public domain	Dr. A.E. Oestreich a U.S. paediatric oncologist publishes an article on the dangers of multiple magnet ingestion, presenting three known case examples (Oestreich 2004).
2005		
Feb 2005	USCPSC	A Colorado mother tells a USCPSC investigator that Magnetix™ toys are 'particularly dangerous', describing how some magnets fell out of the toy and she feared her three year old son may use his teeth to separate them (Callahan 2007a).
May 2005	USCPSC	Three different consumers are so concerned these magnets could harm children, that they send pieces of their defective Magnetix™ toys to the USCPSC (Callahan 2007a).
May 2005	USCPSC	Indiana play school owner, Sharon Grigsby phones the USCPSC hotline to report that five year old Kiegan Willis required surgery after ingesting magnets that fell out of a Magnetix™ building set that he found on the floor of the day care centre (Callahan 2007a)
3 May 2005	USCPSC	Three year old Marcell McNeil complains of flu-like symptoms and over the next few days he vomits violently and his stomach ache worsens. During emergency surgery doctors remove three magnets that have bonded across the walls of his intestine (Callahan 2007b)
May 2005		Ten year old Timothy Kroell suffers life-threatening injuries from swallowing magnets that dislodged from a Magnetix™ knock-off toy.

May 2005	USCPSC	Illinois Attorney-General alerts the USCPSC to the hazards of knock-off toys, urging the regulator to recall the toys (US Senate COA 2008: 3). Despite Timothy Kroell's injuries, these knock-off toys are never recalled.
June 2005	Canadian Company Mega Brands announces its intended acquisition of Rose Art Industries.	
26 July 2005	Canadian company Mega Brands completes the acquisition of American company Rose Art Industries (Mega Bloks Q3 Report 2005:3).	
July 2005	Mattel Inc	A seven year old girl is severely injured by the same type of magnets from a competitor's toy (Mattel's Polly Pocket™ playset). As this litigation never became public until 2007, it is not clear whether the two companies shared information about this common hazard.
Aug 2005		4 year old William Finley swallows parts of a Magnetix™ building set. Doctors initially think he has a burst appendix, but later discover and remove three magnets from his intestines (Callahan 2007a).
7 Sept 2005	USCPSC	A boy aged 2 years six months requires surgery after swallowing three magnetic rod-shape pieces from his older sibling's building set (MMWR 2006).
Oct 2005	Rose/Mega USCPSC	Parents in Highland Illinois tell a customer service representative at Rose Art that a magnet popped out of their four year old son's Magnetix™ toy as he opened the box (Callahan 2007a). The parents reportedly also advised the USCPSC.
31 Oct 2005	Rose/Mega	William Finley's parents send a certified letter to Rose Art advising them of the injuries their son sustained as a result of swallowing magnets that dislodged from a Magnetix™ building set.
3 Nov 2005	Rose/Mega	Rose Art receives and signs for the Finley's certified letter (sent in Oct 2005), advising them of the injuries sustained by William Finley.
24 Nov 2005	Rose/Mega	**Fatality:** 21 month old Kenny Sweet dies after ingesting multiple magnets from a sibling's Magnetix™ construction toy that he found embedded in the carpet of the family home (Esteban 2005; Callahan 2007a). The company fails to report the incident to the USCPSC.
25 Nov 2005	Rose/Mega	Deadline for reporting product hazard and Kenny's death to the USCPSC.
26 Nov 2005	Rose/Mega	Reporting deadline passes, Rose Art/Mega Brands fail to report to the USCPSC.
14 Dec 2005	Rose/Mega USCPSC	Twenty days after finding out about Kenny's death, Rose Art/Mega file an Initial Report with the USCPSC, advising of Kenny's death and identifying the toy that killed him, but providing no additional incident and injury information (US SCOA 2009)
20 Dec 2005	Media USCPSC	KOMO 4 News in the United States breaks the story of Kenny's death and after discussions with the Coroner the USCPSC announces an investigation into the circumstances (Esteban 2005).
31 Dec 2005	Mega/Rose	Pursuant to the conditions of the acquisition agreement, Canadian company Mega Brands assumes full operational control of Rose Art Industries.

8 Dec 2005	Mattel Inc	Devlin Bowman is admitted to Primary Children's Hospital in Salt Lake City in a critical condition, where two magnets are removed from his intestines (Oppenheimer 2009: 240). In 2006, the Bowman's file suit against Mattel.
Dec 2005	USCPSC Mega/Rose	Mega Brands tells federal regulators during recall negotiations that since Kenny's death, the company has begun improving Magnetix™ toys, using more glue and increasing factory inspections.
2006		
Jan 2006	USCPSC	The USCPSC receives more complaints from consumers that magnets are dislodging from children's Magnetix sets (Callahan 2007d).
1 Feb 2006	Mega Brands USCPSC	Mega Brands submits a Full Report, but this too, lacks incident data.
3 Mar 2006	USCPSC	Four year old Kyle Book has a section of his intestines removed after swallowing dislodged magnets from a Magnetix™ construction set (Callahan 2007c). He and three other boys undergo surgery to have the magnets removed from their intestines. The USCPSC is notified in all four cases (Callahan 2007c).
28 Mar 2006	USCPSC Mega/Rose	Two days before the first official recall, Mega Brands provided the USCPSC with the long-awaited complaint and incident data, but it still lacked sufficient detail.
31 March 2006	Mega/Rose USCPSC Consumers	**First Recall:** 3.8 million boxes of Magnetix™ building sets recalled globally (USCPSC Release 06-127, 2006).
Sept 2006	USCPSC	USCPSC Staff discover evidence that leads them to believe that despite claims to the contrary, Rose Art did keep detailed records of incidents. This leads the USCPSC to subpoena the data.
1 Dec 2006		Mega Brands Canada submits data that includes over 1,500 incident reports of magnets coming loose from Magnetix™ toys
8 Dec 2006	Morbidity & Mortality Weekly Report CDC	Publishes a report on magnet ingestions
2007		
February 2007		Three year old Tegan Leisy has part of his intestines removed after swallowing Magnetix™ magnets (Callahan 2007c).
17 April 2007	Mega/Rose USCPSC Consumers	**Second Recall:** Expanded recall of a further 4 million boxes of Magnetix™ building sets globally (USCPSC Release 07- 2007).
May 2007	Retailers	Responding to an investigation by the *Chicago Tribune,* some major retailers halt sales of Magnetix™ toys (Callahan 2007b).
2008		
3 March 2008	USCPSC Mega Consumers	**Third Recall** Recall of 1.8 million MagnaMan™ magnetic action figures.
April 2008		Class Action Lawsuit

2009		
Feb 2009	Published Paper	Dr A.E. Oestreich (2009) publishes a rare worldwide study on the dangers of multiple magnet ingestion, presenting three known case examples.
2009	USCPSC Mega	Mega/Rose incurs a US$1.25 million fine.
2010		
2011		
15 Dec 2011	USCPSC Mega Brands	US District Court (New Jersey) approves settlement of class action lawsuit filed against the company in August 2008. The corporation denies any and all liability but agrees to settle the matter to avoid the expense and resources that would be needed for further litigation (Mega Brands 2011: 48).
2012		
2012	Mega Brands Mattel	Mega Brands and Mattel Inc join forces to develop Mega Bloks construction toy collections featuring Barbie™ and Hot Wheels™, two of Mattel's (and the world's) most iconic brands' (Toys & Games March 2012) providing customizable construction and fashion accessory play for girls and construction and vehicle play for boys.

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